THE GENESEE FARMER.

Vol. XV., Second Series. ROCHESTER, N. Y., MARCH, 1854. No. 3.

THE GENESEE FARMER,

A MONTHLY JOURNAL OF

AGRICULTURE & HORTICULTURE.

VOLUME XV., SECOND SERIES. 1854.

EACH NUMBER CONTAINS 32 ROYAL OCTAVO PAGES, IN DOUBLE COLUMNS, AND TWELVE NUMBERS FORM A VOLUME OF 384 PAGES IN A YEAR.

Terms.

Single Copy,.....$0.50
Five Copies,.....2.00
Eight Copies,.....3.00

And at the same rate for any larger number.

☞ Remittances properly mailed, and postage paid, at the risk of the Publisher.

☞ Postmasters are respectfully requested to act as Agents.

DANIEL LEE,
Publisher and Proprietor, Rochester, N. Y.

FOR PROSPECTUS AND PREMIUMS, SEE LAST PAGE.

DAIRY HUSBANDRY.

Several correspondents have requested us to give an article on Dairy Husbandry; and one in Oregon, Mr. T. W. A., has sent us two dollars "for a work that treats particularly on the dairy business, and the nature and properties of milk." We regret the necessity of informing our Oregon friend that there is no standard work on this important branch of rural economy in this country, although one is greatly needed, and would doubtless yield a fair profit to both author and publisher. The twelve volumes, most of them of large size, of the *Transactions of the New York State Agricultural Society*, contain much valuable information on this subject, for this has ever been the great dairy State of the Union; but no one volume, journal, or book of any kind, is devoted to the elaborate discussion of the proper way to breed, feed, milk, and otherwise treat dairy cows, and the right handling of milk intended to produce butter or cheese. This rural art is uniformly learnt by experience and oral teaching, not from books. Hence, up to this time there has been no demand for works especially illustrative of the best ways and means to render the six millions of cows in the United States more profitable to their owners and more useful to the public. In the production of excellent and long-keeping butter, the dairy women of Holland are justly celebrated; and we have frequently seen their butter advertised in the New Orleans market at forty cents a pound, when American butter, made in Ohio, Indiana and Illinois, was selling there at a third or a fourth of the sum named. In London and Liverpool, Holland butter also commands the highest price. With these and many other evidences of general superiority, it becomes us to study closely the Dutch system of keeping cows and manufacturing butter. We have just procured from Germany a valuable work, published in 1853, illustrated with seventy-one beautiful wood engravings, that gives a full and minute account of the "Holland Dairy Economy," as now practiced. Some of the most valuable facts contained in this treatise will be given as hints to our readers.

Cows are kept much of the time in stables, and fed on green grass, clover, vetches and other pulse, cabbages, turnips, carrots, beets, brewers' grains and slops. All their manure, whether solid or liquid, is carefully saved in large tanks; while the floor of the stable, whether made of cement, tile, paving stone or plank, is washed and scrubbed twice a day, and sanded just before the cows are milked. To prevent their tails getting soiled when they lie down, a small cord tied to a cross bar above descends behind each cow, and is made fast to the brush of her tail, so that it is upheld from the floor and dung when she lies down. Before milking, the bag and teats of each cow are not only washed, but wiped dry with a cloth. All authorities concur in saying that a first class Holland cow-stable, at milking time, is as neat as a parlor. No other nation approaches the Dutch in the care and kindness extended to milch kine, and the scrupulous neatness with which milk and butter are handled. In the making of cheese, the low lands of Western Europe are not distinguished; and there is in the volume from which our facts are mainly drawn a wood cut, showing a man with his pants rolled up above his knees treading and breaking up cheese curd in a tub with his bare feet. It is said that his feet and legs are first washed clean; and perhaps they answer a better purpose than the hands, which are often used for a similar purpose. One had better visit the best cheese districts of New York or England than Holland to learn the mysteries of cheese making, unless it be the little round curds formed mostly from butter-milk.

The best butter dairies in this State yield about 200 pounds per cow in a year; and the best cheese dairies as high as 600 pounds a cow per annum.

These figures are, however, much above the average in our best dairy districts.

In about one-half of the States, milk-maids and other servants do not know how to milk a cow as the operation ought to be performed. They draw the milk with their thumbs and fore-fingers—not with the whole hand. There is some excuse for this where the teats are short and small. To understand the art of milking, one needs a correct knowledge of the anatomy of the lacteal gland in which milk is separated from the blood. This gland is a very important organ, and has a peculiar anatomical structure to fit it for a particular function. The whole weight of the milk, as it passes from the capillary tubes and cells which intervene between the extremities of the arteries and veins in the gland, does not rest on the circular muscles that close the end of the teats. If such were the case, these ring-like muscles would be over-burdened and soon relax, so as to permit all the milk to fall out and be lost on the ground. If the muscles were strong enough to bear up the whole weight of several gallons of milk, the teats would be so firmly contracted that no calf would be able to obtain any food by sucking. The Author of Nature has given to this curious gland, in all mammalia, an arrangement which every owner of a cow and every milker ought to understand. We purposely avoid technical terms (too common in the medical profession), and ask, When a cow's bag cakes before she gives birth to her calf, or afterward, what takes place within this gland? Milk is coagulated and becomes solid curd, but not generally in the main milk-ducts that extend from the teats into the gland. These ducts must be open, or not a dop of milk could be drawn—a condition that sometimes exists. Every where in the gland or bag, numerous little milk-bottles *(cul de sacs)* are attached to the milk-ducts, and hang down like pears, and serve at once as reservoirs to hold some gallons of milk, and to relieve the teats of the great pressure that would otherwise fall upon them. When the milk in these bottles becomes curdled and caked, the capacity of the gland is sadly diminished, and the cow should be milked oftener than usual. Cows full-fed, which have a copious secretion of milk, and withal an inflammatory action in the system, are most likely to suffer from this disorder. We have had cows that had to be milked several weeks before calving; and this precaution is too often neglected by dairymen. Whenever milking is necessary for the relief of the bag, it never injures the unborn offspring, as some have supposed.

It is difficult, if not impossible, to milk a cow dry by using only the thumbs and fore-fingers for the purpose. In this operation the *cul de sacs* are not emptied; the milk is liable to coagulate, become absorbed, and the secretion of milk, slowly but surely, lessened. Many a man loses nearly or quite all the profits of his cows by bad milking. In six years' pretty close observation at the South, we never saw but one first rate milker, and she was the servant of a lady who was born in Pennsylvania. Instinct teaches the calf and lamb to knock their heads upward against the lacteal gland to empty the milk-bottles which we have described; pigs and colts rub their noses against the gland for a similar purpose. A child accomplishes the same end by passing its hand continually over the breast of its mother while drawing thence its natural food. No thumb and finger milking will attain this object, unless the hand is upraised against the bag to upset and compress the sack-like reservoirs. After a good milker has drawn the liquid from the ducts, he (or she) uniformly lifts the hand against the gland as it grasps the teat, compressing it nearest the bag first, and gradually contracting the fingers from the fore one to the little finger. If the teat is long, the hand has to be drawn down toward the extremity of it to expel all the milk. These particulars are entered into, because it is important that cows be gently, speedily, and cleanly milked.

This done, the next question in order is how to turn the milk to the best possible account. If used for making butter, considerable butter-milk, and often skim-milk, remains; and if cheese be manufactured, then a good deal of whey is left. Now, it may interest some of our readers to know that the residum after making cheese is worth about a third or a fourth as much as that left in the production of butter. Whey consists essentially of milk-sugar largely diluted in water. The butter in milk ought to be retained in the curd that forms cheese; but sometimes we find not a little of it in whey. To prevent the creamy part of milk, or its buttery particles, from being expressed in pressing cheese, is one of the most difficult points in the dairy business. Too high a temperature favors this loss of butter in cheese. The skillful management of new curd, rennet, pressing, &c., will be discussed in another article. Very few understand making first rate cheese, that will keep in warm weather, or in hot climates. There is less difficulty in making prime butter, provided the cows are supplied with the right sort of feed. Rich, finely flavored butter, can only be made from green forage, roots, or some thing that will impart the proper aroma and color. The sweet-scented Vernal Grass is believed to have given fame to the best butter made in the vicinity of Philadelphia. Leeks, garlic, and even turnips, often impart a very offensive taste to butter. Indeed, we regard food as every thing in butter dairies. Have that right, and one must be a sorry husbandman who can not turn out excellent butter. Of course some cows yield much more butter from a given quantity of grass, hay, roots, or other feed, than others, but this fact does not cause any one to produce bad butter. To avoid this, the extreme neatness of the Holland system deserves the closest attention. Dutch dairy women obtain two prices for their butter simply because they really deserve such a premium. The amount of bitter, frowy, or rancid butter in American markets, exceeds all belief.

Jefferson county contains some of the best dairies in this State, as well as one of the most spirited and useful Agricultural Societies. We commend the following remarks, made by one of its "Viewing Committees," to the attention of all butter makers:

"In examining the butter dairies we did not find that excellence and uniformity in *color*, *flavor* and *salting* that would have resulted from a more fixed rule of proceeding than appears to have been adopted.

"There appears to be too much of a hap-hazard system, or *want* of system, in the business of butter making; or too much departure from necessary rules.

"We would therefore recommend a strict adherence to the following regulations:

"1. Provide a convenint room, if possible a cellar, from 7½ to 8 feet high, so situated that the air can freely circulate through it when necessary. Let the walls be plastered, the ceiling whitewashed, and the floor flagged or cemented, and allow nothing to be stored in the room but the pans, milk, and appurtenances used in the manufacture. The room should be kept scrupulously clean and cool.

"2. Provide a good supply of pans—from ten to a dozen to each cow is necessary—in order to vary the quantity of milk on hand according to the weather.

"3. Be regular in the time of examining the milk, which should be done twice in twenty-four hours, that the cream may be taken off as soon as the milk is soured or clouded in the bottom of the pan, and stored in stone jars.

"4. Churning should be performed every day, when a sufficient quantity of cream can be obtained; and this operation should take place in the morning, when the air is pure and cool.

"5. The butter should be cleared from milk by the rinsing process,* continued until it is perfectly clear, as it is necessary that all the milk should be out before it is salted. The grain is formed after salting, consequently the butter should be worked no more than is necessary to bring it to an even shade or color, after the salt is added.

"6. One ounce of good rock salt to the pound is sufficient to produce a good flavor and to preserve the butter.

"7. Every package should be soaked in strong brine at least two days before using.

"8. Cover the butter with a cloth tucked in around the edge of the package, and spread damp salt over the top.

"9. If all these precautions do not produce good palatable butter, rightly salted, of fine flavor, and fit for any market, you may lay the fault to your cows and pasture.

"In deciding upon the classification of premiums on butter, we were not entirely guided by the samples examined, but allowed our opinion to be somewhat swayed by the taste, neatness and cleanliness exhibited in the manufacture.

"We found no butter not salted enough, but some so highly impregnated as to be gritty to the touch, and unpleasant to the taste.

"We are also satisfied that there is abundant margin for improvement in the butter dairies of this county. The competition was so slight that the most we had to do was to classify the applicants."

TRANSACTIONS OF THE N. Y. STATE AGRICULTURAL SOCIETY FOR 1852.

The Secretary of the New York State Agricultural Society, B. P. Johnson, Esq., has our thanks for a copy of the above-named work. It is a handsome volume of 890 pages, octavo, and improved by being smaller than its immediate predecessors. It contains a good deal of valuable matter, which ought to have been given to the farmers of the State in the early part of last year instead of the present. As the Legislature is at the expense of the publication, it would cost the Treasury no more to print the Transactions for 1852 in a month or so after the close of the year, than to wait until the information the volume communicates has become stale, and much like the reading of an old almanac. Probably the officers of the Society are not to blame for this unreasonable and injurious delay; and we bear willing testimony in favor of the matter furnished by President Henry Wager, Secretary Johnson, and in the Agricultural Survey of Essex County, by W. C. Watson, Esq.—not to name other valuable papers in the volume before us. It would not detract from the use of any of these, if the writers had studied and practiced condensation more. The twelve volumes published under the auspices of the State Society would have conferred far greater honor upon the institution, and the rural literature of New York, if their facts, and the legitimate deductions therefrom, were compressed into one-third the space, and with the same expenditure, give to the public three times as many copies. To say nothing of sending the Transactions into other States and to foreign countries in exchange, only one farmer in a hundred in New York is now able to have a copy, because so few are printed. It has always appeared to us that the State and County Societies of this old and wealthy State, with the constant assistance of the Legislature, ought to produce an annual volume that would be sought after and placed in every common school library in this great commonwealth, and in almost every farmer's professional library in the United States. The whole number printed, if we are rightly informed, would barely supply *one-third* of the common schools in this State alone with a copy. An edition of four or five thousand is expected to meet the wants of a half million farmers and their families! Better expend ten times more in procuring original and really useful information to print, and thereby produce a work that the public will purchase at a fair price. Because public documents are given away in this country, very little pains are taken to exclude irrevelant or worthless matter from them, apparently under the common notion that "no body looks a gift horse in the mouth." While Congress was willing to print, and did print, five hundred and forty thousand volumes of the agricultural books prepared by the writer, it was unwilling to expend $200 asked to obtain important truths, and add intrinsic value to these public documents. Party favorites, in the shape of public printers, at Washington and Albany, care not a straw whether a Patent Office Report, or the Transactions of the New York State Agricultural Society, contain useful or useless information. Their toll for grinding a party grist is the same in either case; while members of Congress, and of the Legislature, take good care of their pet printers and do nothing more.

These things disgrace the farmers of the republic, whose votes control their public servants. Nothing can be easier than to reform this shameful neglect of duty, if the agricultural interest would wag its tongue in defense of its own well-being. It may be said that the public really has nothing at stake in the

* Where well or spring water contains much lime, iron, alum or magnesia, it should never be used to rinse or wash butter. Pure soft water is alone adapted to this purpose.—Ed. Gen. Farmer.

improvement of tillage, husbandry, gardening, and fruit culture, and that all efforts in that behalf are unworthy of patronage or countenance. There is a great deal of this feeling in the community, and therefore agricultural reform is hardly to be looked for either at Albany or Washington. This fact shall not betray us into any unkind criticism of the labors of the State Society, or of our successor in the Agricultural Department of the Patent Office. We have seen enough of the manifold difficulties and contentions of political capitals not to envy any honest man who labors there faithfully to serve the public. He is too often treated like poor Tray that was found in bad company.

At another time we will review some of the best articles in the 900 pages of the twelfth volume issued by our State Society.

CORN-CULTURE.

THE high price of grain, and the strong probability that the crops grown in Europe in 1854 will not fully make up for the extensive failure of 1853, can hardly fail to cause an unusual amount of corn to be planted in this country the coming spring. It is always our most reliable and valuable staple, and one that deserves the best attention of every farmer. The following remarks, made by a number of the most intelligent and successful cultivators in Massachusetts, at a recent agricultural meeting in the State House, are at once instructive and suggestive. We copy from the *Ploughman:*

"S. SPRAGUE, Esq., of Duxbury, was called to preside for the evening. The topic was announced last week: 'Is the increased culture of Indian corn worthy the attention of the farmers of this commonwealth?'

"Mr. SPRAGUE spoke of corn as one of the original crops of this country. The Indians cultivated it to a considerable extent at the time of the discovery of the country. It has been thought by some of the best farmers that corn is a remunerating crop at 60 cents per bushel

"His father formerly raised twenty bushels to the acre, and followed with rye the next season, of which he would raise 8 or 10 bushels to the acre. The crop has been doubled on the 'South Shore,' compared with what it was forty years ago. There are many questions as to the mode of culture.

"Probably no grain would give animals so much heart for work, or make them take on so much flesh, as Indian corn. It was a very desirable crop to raise.

"Dr. RAYNOLDS, of Concord, had taken pains to arrive at some facts by examining tables to find the comparative amount of nutritive matter in corn. Counting 50 bushels to the acre, at 60 pounds each, it would give 3000 pounds. Prof. JOHNSTON'S tables assigned 14½ ounces of nutritive matter to the pound. This would give 2,718¾ pounds for an acre of corn. Compare this with wheat, 25 bushels on the acre, at 60 pounds, gives 1500 pounds. The tables assign 11 1-5 ounces of nutritive matter to the pound. This would give 1050 pounds nutritive matter from the acre of wheat. Thus the corn crop is more than double in value compared with the wheat crop. After comparing in the same way oats, hay, turnips, &c., he concludes that corn is the best crop to raise. It affords more nutritive matter than any other crop.

"Turnips are perhaps suited to the soil and climate of England. But their climate is not suited to Indian corn.

"Major WHEELER had an estimate of the cost, cash value, profit, &c., of the several crops, thus:—

	No. bush. per acre.	Cost per bushel.	Sells at	Profit.	Amount.
Wheat,	20	$0.60	$1.33	$0.73	$14.60
Corn,	50	.55	.85	.30	15.00
Oats,	40	.22	.50	.28	11.20
Carrots,	700	.14	.33	.19	133.00
Hay,	2 tons	6.00 a ton	20.00	14.00	28.00

"And he spoke in favor of the corn crop.

"Mr. S. BROWN spoke of the corn crop as most beautiful to the eye. It can be raised for 50 to 60 cents per bushel. The fodder from an acre of corn is worth nearly as much as the hay that would grow on the same ground, on an average.

"Mr. WHEELER thought corn not so exhausting to the soil as oats or roots.

"Mr. SPRAGUE mentioned Rev. Mr. ALLEN, of Pembroke, as having long advocated the corn crop. When they have attempted to raise large crops they have planted closer than three feet. Has never seen any thing like 100 bushels to the acre unless planted nearer than common.

"ASA SHELDON, Esq., said he was taught to plant corn four feet apart. He prefers to plant nearer. There are then less suckers. A good acre of corn will produce as much fodder as an acre of grass, beside the corn. He supposes it exhausts the land more than hay, but not so much as roots.

"He knows no crop that will return so much back to the same land as the corn crop.

"There are but few years in which, at some time during the year, the farmer can not have at his own door a dollar per bushel for his corn.

"J. W. PROCTOR, Esq., said the question was whether the increased culture of corn was worthy attention, &c. He thought it was, because corn is more certain than any other crop. It was also more productive than other crops. It might be increased so as to make the average crop in this State 50 bushels per acre.

"The reported measurement of 140 or 150 bushels to the acre was mentioned. Such measurement was duly certified, and he should not believe it without the certificate. He had never seen a field that would produce 100 bushels of shellable, eatable corn. He was yet to learn how we could raise over 100 bushels to the acre.

"He mentioned green corn fodder. A great amount of this is produced per acre. In Essex county it was a very common crop to turn the furrow after mowing, and produce on the same ground a crop for September feeding.

"Mr. LAWTON had been called in Berkshire county to view the crops. Had viewed 40 acres that averaged 100 bushels to the acre, taking neither the poorest rod nor the best rod, but an average rod, in their opinion, for the basis of the calculation.

"Some seven years since one of his neighbors had a field of four acres. It was estimated to be over 100 bushels to the acre. So much was said, however, that in the winter he threshed it all and had it

all measured. The result was 110 bushels to the acre; and there were 440 bushels of corn on the four acres. It was a yellow twelve-rowed corn, resembling the Dutton corn. The kind of corn planted makes a difference. He takes much care in selecting his seed corn. He plants three feet apart, and finds the benefit of plaster and ashes mixed to put on the hill.

"Flat culture is altogether preferable to letting the furrow stand edgewise, or inclined, as some have it.

"Maj. WHEELER was in favor of the large Southern corn for feeding green. When it was 18 inches high he could cut it once. Then it would grow again if not cut very close to the ground. When 3 feet high he could cut it again. It would grow up the third time; and he had three crops of it from once seeding. He plants it thick in rows.

"Sweet corn was mentioned by some as preferable for feeding green, and inquiry was made to ascertain if that point could be settled.

"Mr. HARVEY DODGE said the roots of corn were very thick. No crop leaves the ground in so good a condition for a future crop as corn did."

We feel confident that Dr. RAYNOLDS, as above reported, has mistaken the language of Prof. JOHNSTON, or that there is some error in figures, which say that a pound of corn contains 14½ ounces of nutritive matter, while a pound of wheat yields only 11 1-5 ounces. Chemical physiologists are not entirely agreed as to what constitutes "nutritive matter" in the seeds, leaves, stems, tubers and roots of plants. It has generally, however, been limited to the nitrogenous constituents in vegetables, such as gluten in wheat and maize, legumin in peas and beans, or what MULDER, in his *Chemistry of Vegetable and Animal Physiology*, calls *protein* compounds. It is in this restricted sense that Prof. JOHNSTON ascribes, and justly, a higher nutritive power to bolted oat meal, per 100 pounds, than to any other meal or flour. Corn contains more oil and less gluten than wheat. If a laboring man were not permitted to eat meat, then a pound of oat meal would be better for him than a pound of wheat flour; and a pound of wheat flour would be better than a pound of corn meal. If he ate meat, it would make but little difference in point of nutrition which of the cereals he used as bread.

Having corrected an error of some importance in domestic economy, we call attention to the fact that it is quite as easy in most of the States to grow 50 bushels of corn on an acre as 25 of wheat; and to the statement of Mr. J. W. PROCTOR (good authority), that in "Essex county it is a very common crop to turn the furrow after mowing, and produce on the same ground a crop [of corn forage] for September feeding." This great American cereal is capable of yielding far more wealth to its cultivators and the world than it now does. It may not operate equally well on all land; but we are confident that by plowing our corn fields two or three inches deeper in the spring of 1853 than they were ever plowed before, the yield per acre, on 25 acres, was augmented 10 bushels. No manure of any kind was applied to these old and supposed worn-out fields. Deep and thorough tillage rarely fails to tell on the harvest of corn. We try hard to obtain ashes for this crop, but do not always succeed.

GUANO ON COTTON.

WILLIS BENHAM, Esq., an intelligent planter of Cass county, Ga., in a letter to a friend in South Carolina, which we find in the *Laurensville Herald*, furnishes the following account of an experiment made by him with guano on cotton. He says:

"The land on which I used the guano, is what in this section of the country we call Hickory Orchard land, the principal growth being thick bark Hickory, with some post Oak and Pine; the color of the soil, dark red, with very little sand. The quantity used was rather less than a sack, which was finely pulverized before using. About three weeks before planting I had the land listed three feet distance with a large shovel plow, and as deep as a good mule could pull it. The guano was applied immediately, in the ratio of about 250 pounds per acre, and a high ridge thrown on it with turning plows. It was planted on the 18th of April, as was also the balance of the patch (8 acres), and cultivated in the same manner as the rest of the crop—and now for the result.

"As soon as my crop generally began to show blooms, I counted on the first row, where I had used guano, 40 blooms, and at the same time counted the blooms on the adjoining row, where no manure had been used, and found 9—and now for the seed cotton.

	1st picking.	2d.	3d.	4th.	Total.
Guano row,	12 lbs.	27 lbs.	20 lbs.	17 lbs.	76 lbs
Unmanured row,	3	12	8½	12½	36
Difference in favor of guano,					40 lbs.

"I attended the picking and weighing myself, and am sure that the above is correct.

"The rows are 178 yards long, and you will see by calculation that 28 will make an acre, and

76 lbs. multiplied by 28 make	2,128 lbs.
36 " " "	1,008
Difference per acre,	1,120 lbs."

The above statement is interesting, as showing that 250 pounds of guano may add 1,120 pounds of seed cotton to the product of a single acre. Study this manure in whatever climate, or on whatever soil or crop we may, and it presents facts that challenge our admiration. Old fogies in the production and carting of manure, which is dear at a dollar a load, or ton, are startled, and almost forget their hereditary prejudices, when overwhelmed with the evidence that any natural dung of animals can be worth *fifty dollars a ton* for common farming purposes. Manure so intensified is a quintessence quite beyond the most cherished records of their experience, and fables of paternal tradition. How can one pound of bird-droppings operate to produce three or four pounds of seed cotton, to say nothing of the increased growth of the roots, stems, branches and leaves of the plant? On corn this manure operates with equal power. Let the inquisitive reader call to mind the fact that full 95 parts in 100 of corn and cotton plants are the elements of water and carbon—ingredients that the atmosphere supplies to the imbibing leaves and roots of plants without cost to the cultivator. The ammonia, phosphates and alkalies consumed in the organization of the seeds of maize and the seeds and lint of cotton, are not over *three per cent.* of their solid substance; and as guano contains many times

more of these most costly constituents of crops, it is not difficult to see how a manure that contains 20 pounds of phosphate of lime, magnesia, potash and soda in 100, may enable 500 pounds of corn to grow that really needs and contains no more than 5 pounds of the elements supplied by guano. A barrel of ammonia, and of the incombustible elements found in grain, cotton seed, flax seed and others, may so far fertilize a soil as to increase its crops five fold; that is, produce 25 bushels where only 5 would grow before.

GUANO ON POTATOES AND CORN.

Several correspondents have asked for information as to the value of guano on potatoes and corn. We experimented one year on poor sandy land, but, owing to protracted dry weather, the potato crop failed equally where the manure *was* and *was not* applied. On corn the gain was satisfactory. We have, however, seen guano operate well on potatoes. Mr. Levi Bartlett, of the *Granite Farmer and Visitor*, says:

"But the greatest profit we have derived from the use of guano, was on potatoes. We planted potatoes on about one and a half acres of sandy or loamy soil, that had long been pastured. A tea-spoonful of guano was dropped in each hill of ten rows, then a few rows left without guano, so alternately over the whole field. As soon as the plants came up, the guanoed ones exhibited a richer and darker color than those that received none. The difference increased through the season. When dug, it was found that the guano just doubled the crop; and it took no longer time to dig a bushel from the guanoed rows than it did half a bushel from the unmanured ones. As we sold a portion of the crop at 55 cents per bushel, it proved rather profitable in using the guano.

"The poorer the soil, the greater the apparent effect of guano when applied—at least that has been our experience. Mr. Fisher, already quoted, says: 'The poorer the land the greater is the increase per 100 pounds of guano; that is to say, if you apply 300 pounds to an acre of worn-out soil, which, without help, would not bring 5 bushels of corn, it will, with this dressing, give you 20 bushels or more. But if you will take an acre just beside the first, that has been manured from year to year until it is capable of yielding 30 bushels, and then apply 300 pounds of guano on it, you need not expect at most more than 40 bushels; while on land which, without guano, would bring 50 bushels per acre, the increase from 300 pounds would scarcely be 5 bushels.' From the foregoing, the farmer who manures his land so as to raise 50 bushels per acre, would not find it a profitable investment of his money to purchase 300 pounds of guano to apply with his manure, if it would only add about 5 bushels to his crop of corn. Mr. Fisher says: 'There can be no doubt that even at the present extravagant prices of guano, the farmer who cultivates his own land—if that land is poor—is handsomely paid back his outlay for all his guano judiciously applied, and has a margin left for profit.'"

Our own distrust justifies the deceit of others.

GUANO ON CORN.

Several subscribers have written for information in reference to the use and value of guano on corn. We have taken considerable pains to procure reliable facts bearing on the subject, but have not obtained so many as we wish. Twenty thousand copies of questions relating to the application of guano to corn land, were sent out from the agricultural department of the Patent Office by the writer to practical farmers, and their answers carefully read and compared. Whether it is on the whole better to sow guano broadcast over corn ground, or use it in the hill, is still an open question. We have applied it in the hill with a good result; and we shall next spring sow it broadcast, as an experiment. This manure is now worth fifty dollars a ton in New York, Baltimore and Washington, and we shall not apply over 200 pounds per acre on corn land. Moisten with water, and crush the lumps with the back of a hoe, or something better, before sowing guano, or applying it in the hill. Do not let it come in contact with any seeds, as it may kill them. A trifle taken up between the thumb and fingers is a dose for a hill of corn. Our ground was mellow, and some was stuck into each hill, much like sticking out pumpkin seeds; and in other experiments, a dust of the manure was dropped into the mark for corn before the seed, and a little earth drawn over it. In moist ground, its caustic elements soon dissolve, diffuse themselves through the earth, and so remain diluted and in a condition to enter the roots of needy plants to nourish them. With fair tillage and seasons, guano and wood ashes mixed with the the soil in an available condition, will give a large return in corn on quite poor land. Such is our experience.

UNDER-DRAINING.

An old and valued friend of this journal, and an excellent farmer, in Ripley, Chautauque county, writes as follows:

"I have been a farmer for forty years in this county; and a part of my farm still needs under-draining. During the last fifteen years I have made under-drains with stone, but crawfish or moles have got into them and stopped the flow of water. To obviate this difficulty, I sent to Albany and purchased sole tile; but the cost of transportation is so great that it amounts to a prohibition. I paid $12.50 per thousand, and $26 for transportation. My old drains are stopped, and I would be glad to purchase tile if they could be had at a moderate cost. Can you inform me where they can be obtained in your vicinity? Under-draining is indispensable in much of our land. John B. Dinsmore."

A company with a capital, we believe, of $100,000, has gone into operation in this city, to manufacture brick and draining tile; but as yet they have made none of the latter for sale. As a good machine for the manufacture of both pipes, horse-shoe and sole tile costs but some $250, our Chautauque friends, and especially such as own wet lands in the towns of of Ripley, Westfield, Portland, Pomfort, Sheriden and Hanover, all of which are bounded on the north

by Lake Erie, will find it good economy to make tile near the places where they are to be used. Tile are now made at Palmyra, Seneca Falls, and we doubt not at several other places in Western New York; and, so far as we are informed, they are giving entire satisfaction.

The lake towns of Chautauque county, with whose topography we are quite familiar (having practiced medicine at Westfield and Forestville ten years), contain thousands of acres of wet lands that now yield no crops, or very poor ones, that possess natural capabilities sufficient to render them cheap at $200 per acre, if properly drained; and nothing would give us more pleasure than to aid the owners of these lands in any way in our power to obtain cheap tile, that they may perfectly reclaim these fertile and extensive basins. They are sufficiently elevated above the lake and its small tributaries in the towns named, to be thoroughly drained.

As Ripley, Westfield, Portland, Pomfort, Sheriden and Hanover contain a goodly number of excellent reading farmers, they have already done considerable in the way of constructing both open ditches and covered drains; nevertheless, like our friend DINSMORE, they need a better system, based on the most enlightened and economical engineering. In all our travels over the Western, Southern, Middle, Eastern and Northern States, we have never seen a district where the happy union of rural sciences with rural arts promised so obvious and so important advantages as may be realized in Chautauque county. Earths that yield a good deal of *alum*, as we know that some in Ripley do, and abound in salts of soda, magnesia, potash and lime, possess latent agricultural resources of great value. Chautauque county, whether along lake Erie or on and south of the dividing Ridge, is comparatively deficient in lime. A thorough agricultural survey of that county, by a competent person, would be equally instructive to the general reader and useful to its landed interest. Much of the water leached from its soil and collected in under-drains would be exceedingly valuable for irrigation, after it had been treated with a little burnt lime to convert the sulphate of iron (copperas) and the sulphate of alumina and potash (alum) into gypsum, and still further to transform the phosphates of iron and alumina into bone earth, or the phosphate of lime. Why the lake towns in Chautauque county are so well adapted to corn-culture, and how it happened that they supplied maize to the needy citizens of Oneida, Madison, and we believe Chenango, in 1816, whose corn crops were entirely cut off, are thoughts called to mind by the brief note of Mr. DINSMORE on under-draining land on the south shore of Lake Erie. Both the soil and climate there have peculiar and interesting features.

PERUVIAN GUANO.—The government of Peru lately appointed a committee to investigate and report the amount of guano still remaining on the Chincha Islands, who estimate the stock at 25,000,000 tons. If this be so, it would take 500 cargoes annually, of 600 tons each, three quarters of a century to clear these islands!

HYPOCRICY is the homage that vice pays to virtue.

EXPERIMENTS IN POTATO-CULTURE.

MR. EDITOR:—Being a subscriber to your paper, and a reader of the same, I have taken some interest in perusing the remarks made upon the subject of potato-raising, the "rot," as it is called, its causes, &c. While reading for two years I have been experimenting, and thus practically testing many of the suggestions of your numerous readers and correspondents. In reference to the arguments upon the cause or causes of the potato rot, whether by Americans or Europeans, they prove by practice to be just as conclusive as the old woman's test for indigo: she could tell whether the indigo was good or not by putting it in water—it would sink or swim, and she did not know which. It is nevertheless true that these arguments are of great value. But to practice, we turn and find that the soil is productive of no better or no more positive proof; for what one of your correspondents succeeds in, others entirely fail in.

Now, sir, permit me to make a few inquiries to all practical farmers (and every man who tills four acres of land may be called one): Why are your Pink Eyes rotten and gone to manure, and the Flesh Colors sound, in the same hill; and the next hill *vice versa*—Pink Eyes sound and the Flesh Colors rotten? The next hill is all gone of both kinds—and the next has both kinds perfectly sound—with soil, seed and atmosphere alike to each hill. Further continue your examination, and presently you come to a hill all of one kind of seed (called Western Reds with us), and you find one stalk with sound roots and sound potatoes, while the rest of the roots of the stalks have the appearance of mildew from the surface of the ground down, and in nearly all cases the worst appearance is nearest the surface.

You say, perhaps, you never saw the like. Well, I have, and can prove it, and that, too, on good clay soil, clay and loam soil, and gravel and loam soil. A portion of the land was manured with a compost of forest leaves; manure from cattle and horses, house ashes and lime, were added to the heap of compost, all well mixed and prepared; and a good supply of ashes was spread upon the land two years before breaking up; a part of the land had not been plowed in thirty years before; and I have obtained a like result from every part of the field that I planted potatoes on. It is a field of two acres, from which I gathered two hundred and forty bushels of ears of corn, beside interspersing potatoes to the amount of about four bushels of small seed—the largest spot of potatoes by themselves being about three rods square.

Now, if my land lacked alkali, you would say that *that* was the cause of it. A part of it I know does not, having been well supplied. Some may say the manure was the cause. My reply is, the most of the field had no manure applied to it. Well, you say land that will produce such a crop of corn as that without manure, will be too strong, any way, for potatoes. Very well, I know some of my neighbors say pick you poorest soil for potatoes (and they need not pick a great deal, at least on some of their hundred and fifty acre farms, to find acres upon which nothing can be grown but pennyroyal), so I plowed up about a quarter of an acre through which a plow probably

never run, and I found it a dry gravelly loam. Here I had a fair growth, but seven-eighths rotted.

Now, on these two acres there are all kinds of soil (but a clean sandy soil), from a stiff clay to a light loam, and in potatoe-raising the result, so far as the rot is concerned, has been the same, with this this exception: I planted about two bushels of small seed (which, by the by, I always use) in my corn field where my neighbors' hens had dug up the corn, and from this planting the potatoes were more affected than those I planted earlier in the same year. Now for another: in May, 1850, I broke up about half an acre that had lain as a common for thirty years, upon which many ashes had been thrown, and all kinds of stock had lain; being near the village, it was quite well occupied. After plowing and well preparing, it was planted to potatoes. They bid fair for an extra crop up to the 25th of August; but in ten days from that time the whole crop lay in ruins by the rot. The spring following I plowed it again, and upon one-quarter of the piece I sowed ten bushels of unleached ashes, and then planted. The result was a good growth of sound potatoes. The rest of the lot has also been well supplied with ashes, but in a different form, and I lose my potatoes on that part of the lot every year. I have used plaster and salt, as described by one of your correspondents, but to no effect.

Now, sir, permit me to say, that if the soil produces a good crop of sound potatoes, that will keep through the winter, and the second crop should fail and the third be again perfect, the fault can not be in the soil. *The like I have had on land that has no lack of potash.* The fault is neither in the soil nor in the seed. Having already written more than I intended, I now close by saying that you, and all investigators, will be under the necessity of admitting that all (I say *all*) of this wonderful loss is the work of an *insect.* Top dress often with ashes, and your potatoes are quite safe. This depredator may choose darkness rather than light, for his deeds are certainly evil. A SUBSCRIBER.

PROLIFIC CORN

MR. EDITOR:—In looking over my old memoranda I find the following account of large Indian corn, which perhaps will be interesting to some of your readers:

In 1851 I selected 13 stalks from my field, which produced 28 ears and shelled 14 lbs.; the cobs weighed 3 lbs. One of the stalks bore 4 ears, the grain of which weighed 1½ lbs., equal to 1,843 fold (rather ahead of the Scriptures, 100 fold). I also collected 13 stalks of the Yellow Dent, which bore 1 ear each and weighed 11½ lbs.; cobs, 2½ lbs. The largest one was 12 inches long; cob, 2½ inches in diameter; 22 rows of corn; weight of corn, 1 lb. 1 oz. (997 fold); cob, 3 oz. All of the above stalks were obtained from hills containing 2 or more stalks, excepting the one containing 4 ears, which grew by itself.

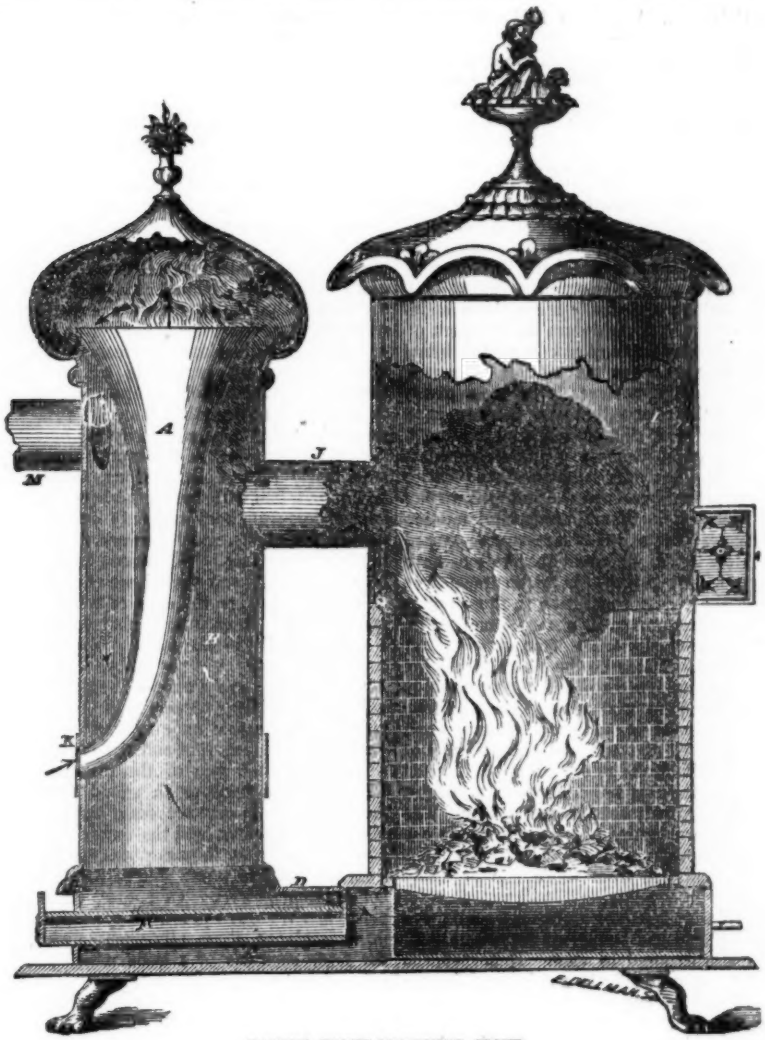
Suppose an acre to contain 4,840 hills, and each hill 1 stalk that would average 1½ lbs.; then multiply 4,840 by 1½, which will give 7,260; then divide 7,260 by 56 (the weight of a bushel of corn), and we have the enormous yield of 129 bushels 46 lbs. to the acre. Here we see an acre of land furrowed 3 feet apart, with only 1 stalk in a place, yielding over 129 bushels. Again, suppose there should be 3 stalks in a hill, corresponding with the next highest number, and we would have 261 bushels 2 lbs. 12 oz. to the acre. At 3 lbs. to a hill, the yield would be 250 bushels 20 lbs. to the acre.

When I wrote the above, I thought those specimens as large as corn generally gets to be; but I have since that time produced some larger ones. I took several stalks to our county fair in 1852, some of which were from 12 to 16 feet high, with 2 ears on a stalk, ranging from 1,270 to 1,738 fold. At our last fair (1853) I entered for competition some stalks with 2 ears on each, varying from 1,032 to 1,750 fold. There were also 2 hills which I dug up where an old horse was burned, in a log heap, to get rid of the annoyance while plowing. One had 2 stalks, 3 ears, and 2,500 grains; the other had 4 stalks, 4 ears, and 3,500 grains (850 fold).

The corn which I exhibited was soaked in a diluted solution of ammonia—1 ounce to 2 gallons of water—then rolled in plaster; but the latter was of no more account than so much yellow clay. There are some kinds of plaster, however, better than that which I used, the good effects of which I have seen at a great distance. If farmers who own valley or prairie land were to subsoil their ground as deep as possible, say 12 to 18 inches, or even more (the deeper the better, as that gives the fibrous roots a better chance to penetrate deep in search of food), they would, in my opinion, raise much larger crops. I have no doubt that if the richest lands could be loosened up 4 feet deep, and a compost of a suitable kind (after the seed had been soaked in a solution of ammonia) put on or in each hill of corn, and the ground well stirred with the cultivator or shovel plow once a week all the season, the crop would reach my highest figure per acre. The thought of this to farmers who have been getting only 40 or 50 bushels per acre, on land that might be made to double that in a year or so with a little expense, is almost enough to scare them into fits. I agree with the editor, that "trying to farm without capital, is like trying to run a locomotive without fuel." S. A. ELLIS.—*Roscoe, O.*

SMOKE-CONSUMING STOVE.

OUR engraving (see next page) represents a vertical longitudinal section of ENNIS & FENWICK'S Atmospheric Reversing Draft Furnace, for which a patent was granted to the inventor, Mr. ENNIS, of the firm of KEYSER & Co., furnace manufacturers in New York, on the 29th of March, 1853. The fire is shown in the furnace, I. The grate is supplied with fresh air through a back tube or channel, F, above the ash-pit or pan, E. A pipe or passage, J, connects the fire chamber or stove, I, with the radiator chamber, B, in which is placed an inverted hollow cone of cast-iron, A, to deflect the fine solid particles of coal that are sometimes carried off from the fire when fresh coals are put on, and also to absorb and retain a great amount of heat, and give it out by radiation, so as to economise it; also to make a portion of air return and feed the fire along with any carbonic



PATENT SMOKE-CONSUMING STOVE.

oxide that may escape, and thus economise fuel. The pipe, F, can be closed to regulate the feed of fresh air. The atmosphere is admitted through the hollow cone at K, and passes up as shown by the arrows, then out by pipe, M. The large part of the cone being placed near the pipe, J, it compresses the smoke into a smaller space before it reaches the top, where it expands and creates a partial vacuum, thus combining the element of an artificial draft without the employment of any mechanical force to do so. This furnace, therefore, must always draw well. If applied to burn bituminous coal, from which much volatile matter escapes, the supply of fresh air by the hollow cone, if any flame passes up, will saturate the gas with air so as to render it combustible, and burn, and thus this stove will be a smoke-consuming one, well adapted for all places where they burn bituminous coal. The arrows show the reversing draft of heated air to support combustion when F is closed; a good arrangement.

We feel confident that this ingenious apparatus will burn not only wood-coal, but dry hard wood, in a very profitable manner. How to make the most of all heat contained in a latent state in any fuel, is a question of great importance in household economy. Millions would be saved in this country, and yet have rooms far more comfortable than they now are, if the wise use of fuel generally prevailed. The annual cost of fuel is one of the largest items of house-keeping, and the expense in this line is steadily on the increase.

HOW TO CHOOSE A GOOD MILCH COW.

We copy the following remarks on the points indicative of a good milch cow, from the supplement to a recent English edition of Prof. Magne's *Treatise on Milch Cows*, by John Haxton. They are stated with great clearness and judgment, although, perhaps, in a very few cases, undue prominence may be given to some particulars:

"The points to be attended to in judging a good milch cow, are, by universal consent, considered to be shape and size of the animal, both as a whole and in detail; texture of the skin and hair; deveolpment of the lactiferous parts; temperament or habit of body and disposition; and finally, strength or endurance of constitution. A maximum development of these points marks out a first class cow of the breed to which she belongs; but the milking properties differ in endless variety, not merely as these points are prominent or the reverse, but also in proportion to the circumstances of climate, soil and treatment. The *ccusson* test of M. Guenon is a new element in the question; and when fully established, and better understood, will probably occupy the first rank among the external signs which indicate the natural milking properties of cows; but as yet it is rarely recognized in Britain. How far M. Guenon's observations have been borne out, will be discussed hereafter; meantime, we shall direct the reader's attention to those points which experience has proved to possess a marked influence on the milking properties of cows.

"*Shape.*—Whatever may be the breed to which a cow belongs, there are certain points of configuration which are considered essential as regards her milking properties. There may be, and are frequently, great discrepancies between the one and the other; but still, generally speaking, the rule holds good that, all things being alike, the cow which approaches nearest to a certain standard will be the best milker. The head must be rather lengthy, especially from the eye to the point of the nose; the nose and muzzle should be cleanly cut, and free from thick skin or fleshy lumps; the cheek bones thin, and in like manner devoid of thick skin or flesh (not thick chapped); eye prominent, of a placid and benignant expression, with little of the white exposed to view. If horned, the horns should taper gradually to a point, and have a clean surface, free from rugosities; the breed will determine the shape and set of the horns.

"The neck should be long, thin, and free from loose skin. A good milk cow may be deer or ewe-necked, but never bull-necked. The chest and breast should be deep, rather than broad, and the brisket should project downward and forward; and, whether large or otherwise, should be round, well shaped, and without loose folds of skin depending from it. The girth behind the shoulders moderate, and arising more from depth than breadth of chest; shoulders rather narrow at top; back-bone on a line with the shoulder-top; ribs arched, and well home to the haunch-bones, which should be wide apart, and form a straight line across, neither depressed in the center, at the lumbar vertabræ, nor drooping at the extremities; hind-quarters lengthy, and the rump or tail-top nearly on a line with the back-bone; thighs rather thin, but broad, well spread, and giving plenty of room for the udder; belly projecting outward rather than downward, with plenty of room for food; the udder should be larger in a lineal direction—that is, well backward as well as upward—between the hind legs and forward on the belly; also broad in front, filling up the space between the lower flanks, but rather short vertically—a deep hanging udder, from its swinging motion, being always the cause of great fatigue to the animal when walking; the teats should be moderately long, straight, and equal in thickness from the udder to the point, and also at considerable and equal distances from each other; the two front teats especially should be well apart, and the direction of all four should be outward. When full of milk, the udder should be greatly enlarged in size, and, when newly emptied, shrink in a corresponding degree, and the skin gather into soft creases. The mammary veins running on each side of the belly, large throughout their whole course, and swelling into large puffs at or near their junction with the udder; thigh veins also large and easily felt by the hand.

"Of all these shapes, the more important are the long, finely formed head; long, thin neck; rump nearly on a line with the back-bone; broad quarters; long udders-from back to front; and large veins underneath the belly, and downward, from the loins and thigh, to the udder. When seen in front, the body of a good milk cow should present the appearance of a blunted wedge, the apex of which is the breast and shoulder. Seen from behind, she should present a square, well spread shape. Seen sideways, she should be lengthy, but not lanky.

"*Skin, Hair and Color.*—The skin is ever a true index of the milking properties of the cow. It should be soft and flexible on every part of the body, especially on the back-ribs, and also on the rump-bones, situated on each side of the insertion of the tail. The latter is a point much prized by dairymen; so much so that a very successful farmer in Cheshire, Mr. Jabez Wright, told the writer that, in buying a cow, if the skin on the rump was soft and easily lifted from the bone, he never sought for further signs of her milking powers. Of course, while feeling this point, Mr. Wright's practiced eye would at once take in, at a glance, those other points which constitute the *toute ensemble* of a good milker; but the one referred to he considered indispensable. The skin in these parts will vary, however, according to the condition of the cow. If full of flesh, the skin may be loose, and yet the animal be a poor milker; but if in lean condition, with loose skin on the rump-bone she will milk well and fatten quickly when dry. The skin on the ribs is of the next importance; and if it corresponds in softness and looseness with that on the rump-bones, another point of excellence is established. These two points conjoined, are correct exponents of the internal constitution, and are always accompanied with more than an average tendency to milk freely and fatten rapidly. The former indicates a more than ordinary power of producing milk; the latter a great aptitude to fatten; and their conjoined presence indicates the union of both tendencies. The skin on the udder generally partakes of the quality of that on the rump and ribs, and will therefore be soft and flexible, in proportion to their softness and flexibility. Still there is a difference to be observed,

viz: that the skin of the udder must not be thick, whereas thickness on the rump and ribs is quite consistent with the best properties, provided it be loose, soft and flexible. In fact, a thickish, soft hide, generally indicates hardiness of constitution, from its greater capability to resist or modify external influences, whether of climate or cuticular irrigation from the bites of insects.

"The hair is the next point to be studied. It should be moderately long, closely set, and above all, soft and wooly. As the thick soft skin is an indication of hardiness, much more so is this the case when covered with long, thick, wooly hair. A bare, hard-haired cow, is ever to be avoided by the dairyman as well as the grazier. If even a moderate milker, yet she will be a great eater, and never pay for her food.

"Color is immaterial, and depends on the breed. A brown cow is supposed to give milk rich in butter, while a black one gives much milk, which is poorer in butter. A white cow looks larger than she really is, while a black one looks smaller. According to the law of absorption and radiation of heat, a black cow will absorb much solar heat in summer, and radiate, or throw off, a large amount of animal heat in winter. On the other hand, a white cow will absorb less heat in summer, and radiate less in winter; and the practical result is, that the black cow is too warm in summer and too cold in winter, while the white one is cool in summer and warm in winter. This is somewhat opposed to the popular idea on the subject, which attributes a cold appearance to a white animal in winter, and the contrary to a black one; but that this is a popular fallacy may be seen, independent of the scientific explanation of the phenomenon, from the fact that the native or wild breed of cattle in Britain were all white, and are so still in Chillingham Park, where the animals are never housed; and also from the fact that white is the prevailing color of all artic animals—bears foxes and hares all being of this hue. The practical conclusions deducible from the fact that a black cow absorbs much heat in summer and radiates much in winter, are: *first*, she must be more susceptible of, and more injured by, sudden atmospheric changes than a white cow; *secondly*, in cold weather she will lose much heat by radiation, and hence must eat more food to keep up the animal heat at its proper temperature. Again, in warm weather she will require less food for this purpose than a white cow, but will be oppressed with heat, and more liable to profuse perspirations. The result of these conditions on the milking properties of the two animals will be, that the black cow will be liable to have her milk injured in quality by excess of heat, and consequent irritation of the system, and profuse perspiration, in summer; while, on the other hand, the cream or oily part of it will be diminished in quantity in cold weather, by the cow using more of the food she eats to keep up the natural heat of her blood. This accounts, in some degree, for the popular notion that the milk of a black cow is generally poorer in butter than that of a white or mixed color.

"*Temperament and Constitution.*—Animals, like human beings, are differently developed in their nervous, sanguineous, muscular and lymphatic constitutions, and their tempers and dispositions vary accordingly. Each breed of cattle is characterized by peculiarities of temper, activity and endurance. The Ayrshire cow presents a good specimen of the union of the nervous and sanguine temperaments, in which the latter predominates. The North Highland kyloe also possesses a union of the same temperaments, but the nervous predominates, which gives her a restless and even fierce aspect. The Short-horn possesses a temperament in which the lymphatic is largely developed; she is slow and sluggish, but all the more disposed to fatten on that account. The muscular temperament is diappearing before the march of improvement, as animals of this description are neither good for the grazier nor the dairy, being fleshy, thick-skinned, and poor milkers. Constitution is the result of natural temperament and physical configuration, but each temperament has its own particular diseases to which it is liable. The nervous temperament predisposes to fevers, the sanguine to inflammations, and the lymphatic to lung diseases; but as these temperaments are never found distinct, but always combined together in some proportion or other, the peculiar diseases to which these unions give rise are as endless as the constitutions themselves.

"Atmospheric causes, and artificial treatment, also impress certain physiological characteristics upon cattle. Exposure to cold, when young, has a tendency to develop those parts of the system whose office it is to protect the vital functions from being injured by this cause. When an animal is early exposed to cold, the hide thickens, and becomes covered with long thick hair. It becomes inured to exposure, and is little affected by atmospheric changes. A long continuance of such treatment, as in the case of the kyloes, from one generation to another, soon impresses a peculiar habit of growth upon them, and this in time settles into a fixed and permanent temperament, or physiological character. Even, however, among individuals of the same breed, exposed to the same external influences, there are great discrepencies as regards individual constitutions. Some are more hardy than others, simply because certain causes, either accidentally or designedly induced, have given them better digestive powers, stronger lungs, and more vital energy. This superiority of constitution, whatever may be its cause, is generally indicated by a large round body, a soft flexible skin, by no means thin, which is covered with a thick coat of soft, silky, or wooly hair. A large paunch is usually the sign of an animal which can and will consume a great quantity of fodder in the shape of hay or straw; and this we know, by experience, to be one of the best indications of a good, healthy, hardy, thriving animal, whether cow, horse or sheep. Strength of constitution can be transmitted as well as other peculiarities: so that a careful breeder, by always breeding from animals that he knows to be of good constitution, will ultimately succeed in strengthening and improving his stock."

HIGH PRICED COWS.—C. M. CLAY purchased two cows at a sale of imported stock in Cincinnati, on the 31st of December last, for $2,300. S. MEREDITH of Cambridge, Ia., bought two others for $1,800. These were high-bred herd-book Durhams. The remainder were withdrawn for want of sufficient bids.

PRODUCT OF GOOD COWS.—I have kept two cows the past year, of the common native breed—one ten years old and the other three years old last April. The heifer dropped her calf about the first of April last, and the old cow about the 13th day of the same month. The cows are of medium size. Their food has been pasture in the summer only; in the fall the refuse of the garden, with some apples and pumpkins; and this feed is given them once a day during winter, while they are milked—while they go dry nothing but hay or corn-stalks is given. About the time they are coming in, carrots, from half a bushel to three pecks a day, are added to their hay for each cow, until they are turned to pasture. Without thinking them very extraordinary cows, we have kept a correct account of all the butter after it was salted and worked, and I find by footing up the account it is 526 lbs. 10 oz.

I made a trial of each cow the first seven days in June: the old cow made 14 lbs., and the heifer 12 lbs. 5 oz. We have a constant family of six persons.

I have raised two good calves; and with the aid of 15 bushels of corn have fattened two pigs, which were killed at 9 months and 20 days old, weighing each 280 and 297 lbs.

My advice to farmers is to feed their apples in preference to making cider to sell or to drink—to pigs or fat cattle all they will eat, and to milch cows half a bushel per day.—*A. S. Moss, in the Country Gentleman.*

PROFITABLENESS OF CATTLE FEEDING IN ENGLAND.

HAVING given my attention to various statements in your columns, and in other publications, on the feeding of cattle and its profitableness, I draw the conclusion that the data before the public are not altogether satisfactory. There are considerations affecting this subject which I have not yet seen properly noticed; one of these is advantage derived from locality. Your correspondent "S." at page 731, says, "the experience of feeders, Mr. MECHI included, is that lean stock cost as much, or more, per stone, than when fattened." In the district in which I am situated it is certainly otherwise; being near the great manufacturing towns we sell our fattened cattle chiefly direct to the butcher; we are also near a breeding district, which sells off its stock to be bred elsewhere. On comparing the price of my lean purchased cattle with the top price of fat on the same day, I usually find them lower in price by 8d. to 1s. per stone; that this advantage can not appertain to other localities is clear, not only from what "S." says, but also from what comes under my own observation. My competitors for lean stock in the neighboring markets are frequently dealers who carry their purchases a distance of 200 miles, to the great turnip districts of the north; while from the same districts great numbers of fattened stock are brought for sale to the towns in my neighborhood. The cost of transport to and from, with the dealer's commission on profit in buying and selling, will probably account for the difference in "S.'s" purchases as compared with my own, making lean stock as dear per stone as fat; to my district, this advantage represents 30s. to 40s. per head, or 1s. 6d. to 2s. each per week—no inconsiderable item in a feeder's reckoning. There is likewise a great discrepancy in the data on another important item in cattle feeding—the quantity, quality and value of the excrement or manure. SPRENGEL, whose treatise is published in the *Journal of the Royal Society*, gives the yield of ammonia in the urine of a cow during 12 months, at about 200 lbs., representing a computed value of £5; while Professor JOHNSON, in his *Elements of Chemistry*, states, according to the practice of Flanders, the value of a cow's urine at £2 a year.

It requires but little acquaintance with the subject of cattle feeding, to know that the value of the excrement is, in a degree, dependent upon the food supplied; there is another consideration which I feel persuaded has an influence—the comparative stage of fatness of the animal. I have for some time held the opinion that the disposition of cattle, generally speaking, is in the early stage more to increase of layer or muscle (lean beef), while in the later or riper stage more to increase of fat, in support of which I may state that cattle in a lean state consist of a greater proportion of layer or muscle than when fat. I am by no means sure that in a very advanced or over-fat state the increase is not wholly to fat; if this be at all correct, the same quantity of nitrogenous food continued through a long course of feeding would give in the later stages an excrement richer in nitrogen than in the earlier, and if so the practice of giving a greater quantity of beans or other nitrogenous food in the advanced stage is erroneous; the same remark applies to linseed or rape-cake, as far as their nitrogen is concerned, but does not apply to their oil which administers to fat.

With the view of informing myself, and for the better understanding of my own practice, I have had recourse to the following experiments:—the first was tried in April and May, during six weeks, on eight heifers; these consumed per week 72 stones of oat straw, shells of oats and a small proportion of bean straw, 10 stones of bean meal, and 7 stones of rape-cake, together with 89 stones of dry fodder; being 22½ lbs., 18 of straw, and 4½ bean meal and rape-cake for each per day, with which they drank of water, given separately or mixed with their mess, nearly 70 lbs. per day each. The yield in excrement from this food was found to be for every 100 lbs. fodder and water, 72 lbs. solid and liquid together. A small portion of this was sent to Professor WAY for analysis, from which it appeared that the water supplied diminished one-fifth, or 100 lbs. to 80 lbs.; while the dry fodder had diminished one-half, or 100 lbs. to 50 lbs. I give the analysis:

Moisture,	81.77
Organic matter, with ammoniacal salts, sand and silica,	15.51
Alkaline sulphates, muriates, &c.,	1.12
Phosphate of lime,	.65
Substances undetermined,	.95
	100.00

Nitrogen .45, equal to ammonia .54 per cent.

(Signed) J. THOMAS WAY.

This yield of excrement is about 10 tons each animal per year; the value in ammonia, 6s. 6d., and of phosphate of lime, 1s. per ton, or about 1s. 6d. per

week, leaving out the other ingredients. The cattle being visited with the foot distemper, this experiment was not continued further.

The next eight cattle on which experiment was tried were bought in September, their live weight being about 7¾ cwt. each on the average, and were in fair store condition. When tied up they were supplied with mown grass, together with 4 lbs. of rape-cake and 2 lbs. of bean-meal each per day. During the month of October the grass was by degrees changed for chopped straw, a little hay, and Swedish turnips, of which they ate about 60 lbs. each per day. This food, with the same allowance of 4 lbs. of rape-cake and 2 lbs. of bean meal, was continued till the 20th of December, from which time till the close of January 3 lbs. each per day of rape-cake was given in addition, making 7 lbs. of rape-cake and 2 lbs. of bean meal per day for each. The weighings were made once every four weeks; in one they made but little progress, the change of food being attended with a state of relaxation. With this exception, their gain was steady. At the close of the experiment, 19 weeks, they averaged 9¾ cwt., being 266 lbs. for each, allowing three weeks for habituating them to change of abode and diet; they gained during the remaining 16 weeks, on the average, 14 lbs. per week each. I give in a tabular form the amount and description of food supplied to the eight heifers during 21 days in January:

	lbs.	Water. lbs.	Organic. lbs.	Ash. lbs.
Rape-cake,	1,176	80	1,001	94
Bean meal,	336	48⅛	275⅛	8⅜
Shells of oats,	1,260	...	1,162	98
Swede turnips,	10,080	9,007	937	73⅛
Meadow hay, inferior quality,	1,176	164¼	940⅛	61¾
Water alone, & with shells of oats,	846	846	...	...
	14,874	10,205⅛	4,325	355⅛
Excrement,	9,000	8,152	1,163¼	284⅛
Deficiency,	5,274	2,053	3,161⅛	51⅛

Nitrogen computed to each description—

Rape-cake,	61¼
Bean meal,	16⅜
Shells of oats,	8
Turnips,	18
Hay,	12
	116

equal to 130 ammonia.

	Nitrogen.
The 9,000 lbs. of excrement are found by analysis to contain	77⅛
Gain in weight of eight heifers 338 lbs. of beef, fat and offal, which may be estimated to contain	38⅛
	116

On comparing the result of this with the former experiment there is a difference in the diminution of the dry material, being in the one two-thirds, in the other one-half. This may be owing to the greater proportion of woody fiber in the bulky food, which in the first experiment was wholly straw, while in the latter a considerable portion consisted of turnips, which have comparatively little woody fiber, and hay; in the diminution of water there is scarcely any difference in the two experiments. During the six weeks from December 20th to the close of January, when the 3 lbs. per day of rape-cake were given to each in addition, no perceptible difference was found in the gain of weight. From this analysis it will be seen that it had a marked effect on the excremement or manure:

Analysis of Manure from Food supplied in January, 1853.

Moisture,	84.92
Organic matter, with salts of ammonia,	12.12
Sand,	.93
Phosphate of lime,	.72
Alkalies, sulphates, muriates, and loss,	1.31
	100.00

Nitrogen .79, equal to ammonia .96

(Signed) J. Thomas Way.

The yield of excrement is about 9½ tons from each animal per year. Its value in nitrogen is 11s. 3d. per ton, in phosphate of lime say 1s. 3d.—total, 12s. 6d., being at the rate of 2s. 3d. per week for each animal, and omitting the other components; reckoning the manure as dry material, without moisture, the value will be £4 5s. per ton—nearly one-half that of guano.

The next eight cattle for experiment were tied up in February; their bulky food consisted of chopped straw, shells of oats and steamed bean straw, in about equal proportions, together with 30 lbs. of Swedes per day, and with as much water as they would drink. As extra food they were supplied with 4 lbs. of rape-cake, 1 lb. of bean meal, ½ lb. of linseed and ½ lb. of wheat, ground together. On this food two of the heifers had gained in the month's weighing in March 9 lbs. a week each, the other six 16 lbs. to 18 lbs. each, weighing the average gain somewhat more than 14 lbs. per week each. A sample of the excrement was sent on the 26 of March for analysis, the result of which I give:

Moisture,	83.81
Organic matter and salts of ammonia,	13.44
Sand, &c.,	.93
Phosphate of lime,	.64
Common salt,	.18
Sulphate of potash and soda,	.98
	100.00

Nitrogen .51, equal to ammonia .62 per cent.

(Signed) J. Thomas Way.

The yield of excrement is about 9½ tons per year for each; the value in ammonia, 7s. 6d., and in phosphate of lime, 1s., making together 8s. 6d. per ton—about 1s. 7d. per week for each animal. Taking the excrement as dry, free from moisture, its value is about 53s. per ton.

My turnips being exhausted with March, an additional quantity of steamed bean straw (a very palatable and nutritious food, to which I may at some time more especially draw attention) was substituted for the Swede turnips; with this, the same allowance of 4 lbs. of rape-cake, 1 lb. of bean meal, ½ lb. of linseed ground with ½ lb. of wheat, was continued till near the close of May. On this the cattle throve satisfactorily, their gain in weight throughout being fully 14 lbs. each per week on the average. On the 24th of May a portion of meadow grass was mixed with their straw; this was by degrees increased till the whole of their bulky food consisted of grass, with the like allowance of extra food—4 lbs. rape, 1 lb. bean meal, ½ lb. linseed and ½ lb. wheat, ground together. At the close of June the lot was of prime quality, and sold at 6½d. per lb., the then top price of the market. Their gain during June was scarcely equal to the average, being something under 14 lbs. each per

week. A sample of the excrement sent to Professor WAY on June 29, was found to consist of—

Moisture,	84.90
Organic matter, with salts of ammonia,	11.94
Sand,	.86
Phosphate of lime,	1.33
Common salt,	.24
Sulphate of soda and potash,	.73
	100.00

Nitrogen .94, equal to 1.14 ammonia.

The yield of excrement being at the rate of nearly 9½ tons from each animal per year, the value of ammonia may be computed at 13s. per ton, and the phosphate of lime at nearly 2s., making together 15s. per ton, being at the rate of 2s. 10d. per week in these two ingredients only; reckoned free from moisture, £5 per ton, to which the sulphate of potash and other mineral ingredients will be an appreciable addition.

It will be observed that the bulky food supplied, when this sample of excrement was sent for analysis, was rich meadow grass, at the season it is found to contain the greatest per centage of nitrogen, and that this would materially affect the proportion of nitrogen in the excrement. It would have afforded a more satisfactory test of the correctness of my views as to the disposition of the animals to use or assimilate more nitrogen in the early, and more fat in the later, stage of feeding, if the same bulky food had been continued throughout. My ordinary practice being to feed off two sets of cattle during the year—one beginning with grass and finishing with turnips (for sale in December and January); the other with turnips, or other winter food, and finishing with grass (for sale in July and August)—does not afford me an opportunity of trying this; still, when I find from the analysis of the excrement in the two instances of advanced stage of feeding doubly rich in nitrogen without any perceptible increase in its weight, these experiments tend to confirm this impression.

When it is considered that nitrogen or ammonia costs in food (take, for example, beans, at the moderate price price of £7 per ton, or 31s. 6d. per quarter) more than 1s. per lb., while its value as manure is usually computed at only 6d. per lb., the desirableness of limiting the supply to what is requisite for assimilation in the maintenance and increase of the animal will be evident. The feeder may calculate that if he go beyond this, his 20s. for such extra supply will diminish to less than 10s., even with beans at the moderate price I have quoted, 31s. 6d. per quarter; at the present high rates, the 20s. so used would diminish to one-third, or 6s. 8d.

My cattle are on boarded floors. The whole of the excrement, solid and liquid, passes into a tank, under the tails of the animals. When filled, the contents are emptied into a mud cart, and during the experiment each load is weighed on a machine. On sending a sample for analysis, the excrement, solid and liquid, shed during 24 hours, is carefully stirred about and blended for some time, to insure an average sample.—*Y., in the London Agricultural Gazette.*

SCOURS in horses.—Put one pint of good gin and one ounce of indigo into a bottle, and shake them well together, and administer in one dose.

A MOST VALUABLE GRASS.—I have just read a letter of Mr. DANIEL ZOLLICKOFFER'S, published in the November number of your truly interesting and valuable work, *The American Farmer*, upon the subject of "Meadow Oat Grass." I am very anxious to tell him that I have a winter grass which, if he could see, would so satisfy him that he would never think of Meadow Oat grass again. I have now a field of 100 acres (as level as a floor) in my grass, from 8 to 10 inches high, the seeds of which were sown late in September last, and which more than 100 head of cattle, with horses, mules, sheep and hogs, can not keep down from this time to June next. What think you of that? This grass will keep them *all* fat throughout the winter and spring, thereby saving corn and fodder for work time. It makes the milch cows give the greatest abundance of the richest milk, rich cream, and the sweetest and yellowest butter. It enables a man to have fat beef, mutton, kid, pork, turkey and chicken for his table, and will then (the stock being removed) go to seed, and yield from 4 to 6 tons of nutritious hay per acre. This grass no frost, however severe, ever hurts; no insect troubles it; no overflow of water retards it; no ordinary drouth affects it. This grass reproduces itself, through its seeds, on the same ground (without re-sowing) for ages, enriching a field, beside grazing the stock and yielding its hay. It does not spread, but is easily gotten rid of by plowing under; and above all, this grass, with our great Southern pea to follow it (which it does exactly), gives to planters the cheapest, the earliest, the simplest, and the most paying plan to restore worn-out fields, and re-fertilize those not yet exhausted, which the ingenuity of man can devise. These two will restore the most worn and exhausted field, and richly pay us all the time they take to do it. Can guano do this? Can any compost, or mineral? This grass, on *very rich ground*, will grow 4 feet high; and I am in the bounds of truth when I say, it will produce over 100 bushels of seed from an acre. The seeds of this grass are larger than the seeds of any known species, being nearly as large as grains of wheat. This grass is equally as nutritious as barley; and stock of every kind, together with every species of domestic fowl, are as fond of it as they are of that. For sheep, it has no equal. For making hay, no grass can compare with it. In fine, I say without the least reservation, that the *Ceratochloa breviaristata* (which is the botanical name of my grass) is without a rival in our climate and soil. The seeds of this grass I propose to sell the coming year, and have so advertised, at $5 per peck (which is plenty for a person to begin with), to such as will choose to send me their names and office (post paid) to Columbus, Georgia.—*B. V. Iverson, in the American Farmer.*

TO MAKE CRACKERS.—One quart of flour with two ounces of butter rubbed in; one tea-spoonful of saleratus in a wine glass of warm water; half a tea-spoonful of salt, and milk enough to rub it out. Beat it half an hour with a pestle, cut it into thin round cakes, prick them, and set them in the oven when other things are taken out. Let them bake till crisp.

IMPORTATION OF EUROPEAN CATTLE.

England imports cattle from Continental Europe, particularly from Holland and Belgium. A correspondent of the *St. Louis Evening News* says:

"Thus it is. England imports fine cattle from the continent of Europe, and the United States import fine cattle from England. Yet there is no great inconsistency in this. English stock growers get cattle from abroad to cross with their fine breeds, knowing that in this way alone the superiority of stock may be preserved. But *we* import all the time from England, and cross with the inferior stock of this country. After a while we will get our native stock elevated; but it will have an English sameness about it. Why should not the next importations be from France, Holland or Belgium? Having a good supply of the best English breeds, if we obtain also the best continental stock, we shall no longer be dependent on England for improved crosses. The best milkers in the world are found in France—and an importation from Flanders or Limousin we think would be the best modern speculation in fine stock."

We are informed that the suggestions advanced above are about to be carried into practical effect on an extensive scale in Missouri. One of the most extensive growers of stock in the neighborhood of St. Louis (Charles L. Hunt, the Belgian Consul there), some time since opened a correspondence with parties in Europe for such information on the subject as was desired by persons desirous of importing here. The Belgian government he has also been writing to. Agriculture there is under the special supervision of the official authorities. The government directly interests itself in the improvement of breeds of horses, cattle, swine, and whatever else concerns the agricultural welfare. Fine stallions, bulls, &c., are procured by importation or otherwise, and stationed in the various Provinces for the farmers generally to breed from. There is a separate bureau of their public affairs, to overlook and improve the agricultural and stock-raising interests of the kingdom. In reply to Mr. Hunt's letters soliciting information as to the quality and price of horses, cattle, &c., the Belgian Minister said that instructions had been sent out to all the Provinces, and that as soon as returns could be had the result would be communicated to him. He was at the same time assured that the Belgian government felt gratified with the friendly purpose manifested, and that every facility would be afforded by that government to the people of Missouri in the purchase and importation of Belgian stock. The information desired by Mr. Hunt was carefully collected, and after collation so as to get the average price of the animals specified, and the aggregate of quality, the result was communicated to him in the following brief and perspicuous document:

"Bruxelles, Dec. 15, 1853.

"Monsieur le Consul:—I have the honor of addressing you a notice on the cattle, horses and sheep of Belgium. In this notice you will find answers to the last questions propounded in your letter of the 12th of September last, relating to the qualities, shape and price of the above-named animals.

I am much obliged to you, M. le Consul, for the good intentions which caused you to ask me these questions; and I renew the assurance of my distinguished consideration.

"The Minister of Foreign Affairs,

"(Signed) H. De Brokere.

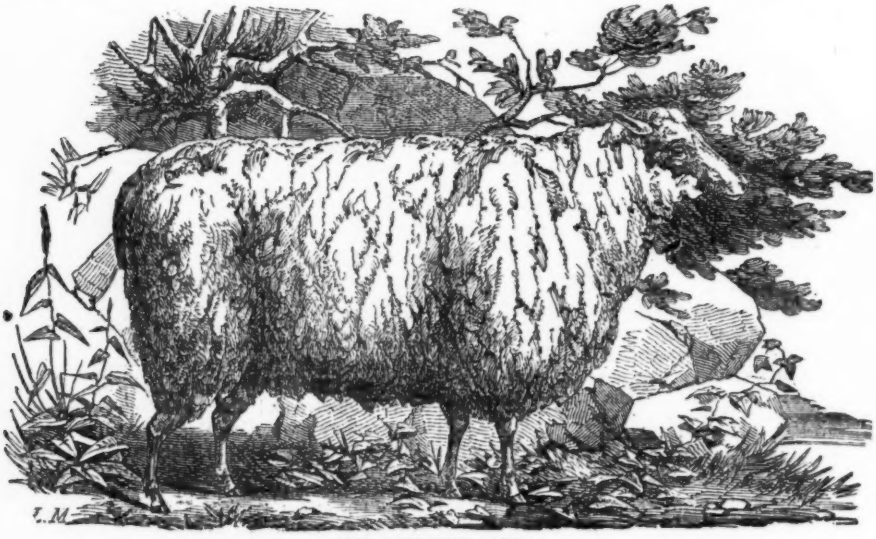
"To M. C. L. Hunt, Consul de Belgique, St. Louis."

Mr. Hunt is organizing an association, with a large capital, for the express purpose of importing stock from Belgium and Germany. By the middle of April, the commission, it is expected, will be ready to start to Europe to make the purchases. The prices of cattle named vary from $50 to $300 a head in Belgium.

NEW LEICESTER SHEEP.

We give in this number of the Farmer engravings of the celebrated New Leicester or Dishley sheep. This breed originated in a series of experiments begun about the year 1755, and conducted by Robert Bakewell, of Dishley, in Leicestershire, England. There has been not a little dispute in Great Britain as to the parent stock selected by Bakewell for propagating his improved race. But though Bakewell's subjects are conjectural, both the principles on which he worked them into a new breed, and the practices by which he rendered that breed distinct and permanent, are well known. "He perfectly understood," says Professor Low, "the relation which exists between the external form of an animal and its aptitude to become fat in a short time. He saw that this relation did not depend upon size, nor, in the case of sheep, on the power of the individual to yield a large quantity of wool. He therefore departed from the practice of all former breeders of the long-wooled sheep, who had regarded size and an abundant growth of wool as primary properties in the parents. Holding bulk of body, and the produce of the fleece, to be secondary properties, Bakewell directed especial attention to the external form which indicates the property of yielding the largest quantity of muscle and fat, with the least bone and what is usually termed offal. He aimed, too, it is said, at producing the fat on the most valuable parts; but this is merely a subsidiary property, dependent upon general harmony of confirmation. Progressively perfecting his animals by skillful selection, he necessarily continued to breed from his own stock, and did not scruple to connect together animals the nearest allied in blood to one another. This system, continually pursued, not only gave a permanency to the characters imprinted on his sheep, constituting a breed, in the proper sense of the term, but tended to produce that delicacy of form which experience shows to be connected with the power of secreting fat, and arriving at early maturity, or what may be termed premature age. The system, acted upon for successive generations, tended likewise to render the animals more the creatures of an artificial condition, more delicate in temperament as well as in form, less prolific of lambs, and less capable of supplying milk to their offspring. It can not be supposed that Bakewell was unobservant of these effects; but he appears to have regarded them as being of a consideration secondary to the property of producing, in the shortest time, the largest quantity of fat, with the least consumption of herbage

and other food. That this was the main result at which he aimed, all his practice shows; and his success corresponded with the skill and perseverance with which he applied his principles to practice. His stock became gradually known and appreciated in the country around him; but it was not until after the lapse of nearly a quarter of a century that it arrived at that general estimation in which it was afterward held. He early conceived the idea of letting his rams for the season, in place of selling them. The plan was ridiculed and opposed in every way; and it was not until after the labor of many years that he succeeded in establishing it as a regular system. It is said that his rams were first let, in 1790, at 17s. 6d. each; but this was certainly before his breed had arrived at its ultimate perfection. His usual price afterward became a guinea, and in rarer cases two or three; but the price rapidly advanced with the increasing reputation of his stock. In 1784–5, the price had risen to about 100 guineas for his best rams; in 1786, he made about 1,000 guineas by the letting of his stock; and in 1789, he made 1,200 guineas by three rams, and 2,000 guineas by seven; and in the same year, he made 3,000 guineas more by letting the remainder of his rams to the Dishley Society, then instituted."

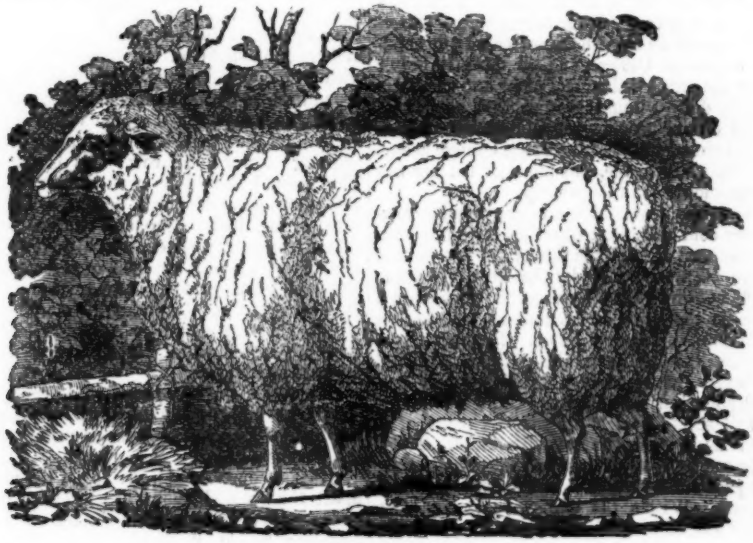


NEW LEICESTER SHEEP.

The best form of a Leicester ram — according to the description of Mr. CULLEY, who was one of the earliest and most successful of Mr. BAKEWELL's followers in the breeding of the new race — is as follows: His head should be fine and small; his nostrils wide and expanded; his eyes prominent, and rather bold and daring; his ears thin; his collar full from the breast and shoulders, but tapering gradually all the way to where the head and neck join, which should be very fine and graceful, being perfectly free from any coarse leather hanging down; the shoulders broad and full, and at the same time joining so easy to the collar forward and chine backward as to leave not the least hollow in either place; the mutton upon his arm or fore-thigh must come quite to the knee; his legs upright, with a clear fine bone, being equally clear from superfluous skin and coarse hairy wool from the knees and hock downward; the breast broad and well forward, which will keep his fore-legs at a proper wideness; his girth or chest full and deep; and instead of a hollow behind the shoulders, that part, by some called the fore-flank, should be quite full; the back and loins broad, flat and straight, from which the ribs must rise with a fine circular arch; his belly straight; the quarters long and full, with the mutton quite down to the hock, which should neither stand in nor out; his twist deep, wide and full, which, with the broad breast, will keep his fore-legs open and upright; the whole body covered with thin pelt, and that with fine, bright, soft wool. We shall add the characters of Mr. BAKEWELL's ewes and wethers, which are supposed to have surpassed all others in beauty of form. The head is long, small, and hornless, with ears somewhat long, and standing backward, and with the nose shooting forward; the neck thin and clean toward the head, but taking a conical form, standing low, and enlarging every way at the base; the fore-bend altogether short, the bosom broad, with the shoulders, ribs and chine extraordinarily full; the loin broad, and the back bare; the haunches comparatively full toward the hips, but light downward, being altogether small in proportion to the fore-parts; the legs of moderate length, with the bone extremely fine; the bone throughout remarkably light. The carcass, when fully fat, takes a remarkable form, much wider than it is deep, and almost as broad as it is long, full on the shoulder, widest on the ribs, narrowing with a regular curve toward the tail, and approaching somewhat the form of a turtle; the pelt is thin, and the tail small; the

wool is shorter than long-wools in general, but much longer than the middle-wools, the ordinary length of staple from 5 to 7 inches, varying much in fineness and weight.

The new Leicester breed is, in an aggregate view, better or more perfect than any of the other races of long-wooled sheep; and it has abundantly proved itself capable of imparting some improvement to every one of them by crossing, and at the same time has derived no advantage from any in return, but can be maintained in vigor only by being kept pure, and perpetuated from the best of its own stock. New Leicester sheep, as regards their feeding qualities, are more profitable on rich low pastures than any other sheep whatever; they come earlier to maturity than even the South Downs—a new Leicester wether being fat at 22 months, while a South Down one is seldom as far forward till he become a twelvemonth older; and they contain in their carcass a greater amount of dead weight in proportion to the amount of live weight than any other breed—the flesh and fat being accumulated more externally, and in the greatest degree in the most profitable parts, and in the least degree in the coarse points. Some of the chief disadvantages of the breed, as compared with the characters and properties of other good breeds, are inferior prolificity, feeble nursing powers, deficiency in bulk of fleece, comparative weakness of constitution, predisposition to inflammatory diseases, and inability to bear exposure to a churlish climate or to inclement weather. These, defects, however, are less now than in the days of Bakewell; and whenever purity of breed is not an object, they can be much reduced or entirely overcome by crossing with such breeds as the Cotswold and the Bampton Notts. "Bakewell was compelled, in a sense, to confine himself to his own stock, and to the blood of one family, in order to preserve that standard of form which he had produced; but from the subsequent multiplication of the new Leicester breed, modern breeders are relieved from all necessity of this kind. They can obtain individuals of the form required from different flocks of the same breed, and need never, by a continued adherence to the blood of one family, produce animals too delicate in form, deficient in weight of wool, and in that hardness and soundness of constitution, which are even more necessary than the perfectness of individual form for the safety and profit of the breeder. The sacrifice of the secondary properties which Bakewell did not hesitate to make, was the result of circumstances which do not now exist; and the present feeling of the breeders is to maintain a larger and more robust form of the animals than seemed good to the earlier improvers. Thus, the Cotswold breed of sheep, though far inferior in form to the pure new Leicester, is maintaining a successful rivalship with it over a large extent of country; the lowland Gloucestershire, the Devonshire, and many of the Lincolnshire agriculturists, are propagating a larger race than is approved of by the Leicester breeders; and even in the north of England, where the Leicester breed was early established, a heavier race is preferred to the purest of the Dishley stock."



NEW LEICESTER SHEEP.

New Mexico has the extraordinary number of 377,271 sheep—more than six to each inhabitant—proving the soil and climate of that territory to be well adapted to this description of stock, and giving promise of a large addition from that quarter to the supply of wool. The importance of fostering this great branch of national production is shown by the fact, as assumed by an intelligent writer on the subject, that our population annually consumes an amount of wool equal to seven pounds for each person.

Horticultural Department.

CONDUCTED BY JOSEPH FROST.

THE OSAGE ORANGE HEDGE PLANT.

A few days ago we received from Messrs. Bryan, Pitkin & Co., seedsmen, &c., in Louisville, Ky., an excellent treatise upon the cultivation of this plant. It commences with the manner of sowing the seed, and carefully considers the treatment of the plant in its various stages, till sufficiently strong to defy the attacks of both man and beast.

Many have doubted that it would prove hardy enough to withstand the severities of our winters, though admirably adapted to our South-western States; and we must say that our opinion was much the same, believing that it never could be acclimated to such a degree as to use it for fences here. Observation and experience since have increased our confidence in the Osage Orange, and we think it better adapted for the purpose than any plant known. The conviction is daily gaining ground that as fast as farmers and others become acquainted with the advantages and management of the Osage Orange hedge, and timber becomes scarce, this mode of fencing will be generally adopted in this country.

Plants now two years old upon our grounds, growing in a very cold and bleak situation, have not been injured in the least, though the tips of the late-formed shoots have been cut a little by the frost. But the winters will not even do this when the plants are a year older, as the wood it then forms will be less luxuriant, therefore better ripened. In the autumn of 1852, while visiting the residence of the lamented A. J. Downing, at Newburgh, N. Y, we were presented with some burrs of the Osage Orange—the first that we had seen—from a magnificent plant of it growing in his grounds, then twelve to fifteen feet high. The seeds of it, we were informed, had never arrived at perfection, though it had fruited for three or four years. Within the limits of our city some are planting long lines of it, while others have fences now nearly strong enough to resist cattle.

Believing that it will be of interest to our readers, we make some extracts from B., P. & Co.'s circular, which seem to be the most important:

"*Hedge Row.*—Unless the soil is very mellow and rich, a trench not *less* than two feet wide, and as deep, should be dug on the line where the hedge is to stand, and filled up with equal parts of well rotted manure or compost, and rich earth.

"In uncultivated prairie or grass land, a strip from six to eight feet wide should be turned over along the line of the proposed hedge during the summer or fall previous, and harrowed or back-furrowed just before the time of setting in spring.

"*Hedge Line.*—A convenient one is made by winding a strong cord, fifty or sixty yards long, around a board eight inches wide; then, with a small brush, painting down the edges of the board across the cord, which will mark it at proper intervals for setting plants in a single row.

"*Planting the Hedge.*—This may be done any time after the warm weather commences in the spring, though it is well to wait until the buds are much swollen; and even if the leaves begin to put out, no matter, as there will be less danger of setting lifeless ones. Choose a moist time, otherwise wet the plants before setting. Select those of a uniform size as the best to be planted together, and shorten the roots to within eight or nine inches, and the top to within two inches of the root. Stretch the line where the row is to stand, and set out the plants by the marks, or not more than ten inches apart, in a single line, thus: * * * or diagonally, thus: * * * * making them a foot apart in each row.

"If for a prairie or field hedge, set your stakes and run a deep, even furrow the whole length, having a due regard to straightness, as the beauty of the hedge depends much on this. Stretch the line along the edge of the furrow, and fasten the ends to stakes driven firmly into the ground. Take now your baskets of plants in one hand, and with the other place them upright in the furrow, against the sides, at places indicated by spots on the line. Fill in immediately with a hoe, pressing the earth with the foot firmly around the roots. To prevent moles from burrowing under the hedge, set the plants three or four inches lower than the sides, so as to leave the ground a little 'dishing' toward the row; this is found effectual. The ground should be well cultivated during the season, or, what is much better, cover the surface three or four inches deep, and two feet wide, on each side of the row, with cut straw or leaves. If these are not to be had, tan bark or sawdust will answer. We would, from past experience, earnestly recommend this *mulching*, as it retains moisture for the plant which otherwise would be evaporated, and acts subsequently as a manure. It also saves nearly all the labor of cultivation.

"Should any of the plants fail to grow, their places should be immediately supplied by taking up from the end of the row, or from a nursery reserved for the purpose.

"It is recommended *never* to set the plants further apart than stated above, as at greater intervals the stalks must grow larger and the roots extend proportionally; beside, it requires much more labor in pruning, for which the saving in plants is by no means adequate. As regards the *single* or *double* row, Prof. Turner and others claim that a single line is all that is necessary or desirable. Mr. Neff and friends are still inclined to the latter method. *Either* undoubtedly answers the purpose well.

"In consequence of the first pruning at the time of setting, each plant has thrown out three or four shoots. The second cutting will cause these to multiply to six or eight, which will nearly fill the space between the plants.

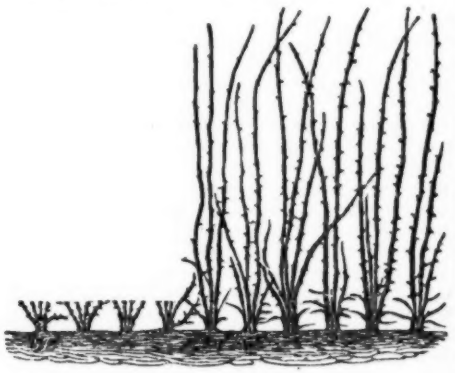
"A second trimming should be given when the plants are making a vigorous growth, from the middle to the last of June, cutting off the tops smooth and even to within four inches of the ground.

"The next spring cut to within five inches of the preceding cutting, and in June likewise.

"Continue these spring and June prunings, increasing the distance an inch every year, until the hedge shall reach the height desired. The side and lateral branches may be pruned and thickened so as

to render it impenetrable to a bird. As regards the shape of the hedge, the taste of the grower will dictate. A neat and most convenient shape for a farm hedge is about five feet high, and three feet wide at the bottom, gradually narrowing so as to render the top like the ridge of a house.

"*Trimming the Hedge.*—In the growing of a hedge, as in the erection of a building, it is all important that we make a good foundation, and this can only be secured by *close* pruning; neglect or delay in this will cause disappointment and much fruitless labor. Many who have attempted to grow the Osage Orange have failed in their object, either by being in too great a haste to complete it, or by laborious experiments in the way of bending down and interlacing, &c., as a substitute for the use of the knife. It should be *remembered*, then, that the Osage Orange will bear any amount of trimming, and that a hedge sufficiently firm and compact at the base can be made in no other way than by regular and *severe cutting down*. The spring succeeding, or one year from the setting, cut all down to within four inches of the ground, as seen at the left hand of the cut.



"The growth after a few years is quite slow, and the shoots so fine that one can scarce believe it to be the same plant. One trimming a year will probably be all that will be necessary, except for ornamental hedges.

"The hedge should not be set within four or five feet of a fence, particularly on the north side of one where it will be shaded, as this prevents its thickening. It should also be fully protected from stock for the first two years.

"The labor of trimming a hedge is much less than many people suppose. An active man with a good implement and practice, will trim one hundred and fifty rods per day. A corn hook placed on the end of a hoe handle is as good a tool as probably will be found for common hedges. A long knife and pruning shears may be used for others.

"The Osage Orange will be found to afford the most efficient protection to orchards and gardens, as it is much easier to scale any kind of board fence that can be made than an Osage Orange hedge five feet high. It is highly *ornamental*, and will be found very *suitable* and appropriate for enclosing churchyards and cemeteries."

VEGETABLE PHYSIOLOGY AND PEAR CULTURE.

In noticing the Transactions for 1853 of the North-Western Fruit Growers' Association, in our last number, we promised our readers in this the perusal of Prof. KIRTLAND'S instructive Letter on the Pear, with editorial remarks. The subjects discussed are not less important in a chemical, physiological and pathological point of view, than as a branch of profitable agricultural industry. What is said in favor of potash, phosphate of lime, and other inorganic elements demanded for the healthy growth of Pear trees and their fruit, coincides with our own observations and belief in the premises; but the ideas advanced about "suckers springing from the roots of trees being evidence of pre-existing disease," appear to us as having been adopted without due consideration. Under favoring circumstances, roots and stems put forth living buds from which new trees or plants are developed. This production of a perfect offspring is neither unnatural, nor a morbid action. Not only do plants propagate their respective species by the economy of buds as well as seeds, indefinitely, but the same great law of vitality is extended to one of the lowest tribes of animals—namely, coral insect. Every system of stratified rocks, down to the *Cambrian*, contains the remains of bud-formed polypi; and yet, like the Apple and Pear tree, which form perfect seeds and buds, these polypi propagate by eggs (seeds) as well as by buds. All seeds, when studied anatomically, are found to be only a mass of cells; and all buds are the same.

If the vital principle of buds is found to be sometimes feeble and worthless for the continuance of the species, precisely such is the condition of many seeds. Too many seeds falling upon a given area of ground and taking root, compels many seedling plants to die prematurely. Too many budlings starting into being from the roots of a Pear, Apple or Plum tree, rudely broken by a plow, over-stock the soil, and some die early from starvation. Seeing that coral animals have been propagated by buds during the long geological ages required to form stratified rocks, abounding in the remains of polypi, forty thousand feet in thickness, surely the antiquated notion of KNIGHT and others that plants can only be successfully propagated by seeds, ought to be abandoned. The same Infinite Wisdom that formed seeds, created buds also; and Nature is as ready and willing to avail herself of the use of buds as of seeds to prolong the existence of plants on earth. The diseases of fruit trees arise from defects in soil, in climate, from the attacks of insects and parasitic plants, and the bad pruning and management of man—not from any inherent, constitutional malady in suckers or buds. L.

"LETTER FROM J. P. KIRTLAND ON THE PEAR.—Fifty years since my attention was directed to the cultivation of the Pear, by the observations of an old and experienced nurseryman. At that day there might be seen, in certain localities, a few lofty and venerable Pear trees—the productions, perhaps, of the Seventeenth Century. They were still healthy and productive. The varieties were limited, but embraced, among others, the *Summer Bon Chretien*, then known as the *Summer Bell*—one a kin to the

Julienne of the present day—and another universally denominated the *Summer* or *Harvest* pear. This last I continue to cultivate, and consider it preferable to the *Madeleine* or the *Bloodgood*, though I have never found it described in any work on fruits.

"Few trees of recent growth were to be met with, and it was then, as at present, a popular belief that this fruit could not be cultivated with any prospect of success. Of course not many efforts were made, and they were illy directed. Their results seemed, in most instances, to confirm the correctness of popular opinion; yet occasionally a young tree would thrive in spite of adverse circumstances.

"In the year 1810 I first visited the northern parts of Ohio, and found seedling Pear trees springing up in most of the nurseries and orchards of the new settlers. In my subsequent visits in the year 1818, and especially in 1823, I regretted to find that a large proportion of those seedlings were disappearing under the attacks of a disease said to be "the *fire blight*." A few survived, and have continued healthy down to the present period.

"During the summer of 1824 I reared an extensive nursery from the seed exclusively, and diffused the trees extensively over Northern Ohio and Western Pennsylvania. Like their predecessors, they soon disappeared—leaving, however, an occasional survivor behind.

"I have recently had an opportunity to examine the lofty and beautiful Pear trees on both margins of the Detroit River, in Michigan and Canada. These trees were planted by the early French population, and have survived from one to two centuries. Many of them were loaded with fruit at the time of my visit.

"The day has passed when horticulturists should, like our soap-making mothers *of old*, impute such diverse results to '*good* and *bad luck*.' The causes for the apparently opposite results of attempts at cultivating this fruit are worthy of investigation. They of course exist, and their discovery may result in rendering future attempts successful beyond a contingency.

"The *first* query that naturally is presented is:

"Why was the first stock of Pear trees, reared in Connecticut, Ohio and Michigan, thus thrifty and healthy?

"Two causes operated mainly in producing such an effect—

"1st. The trees were reared exclusively from seed.

"2d. The superficial virgin soil, in most localities, was rich in the accumulations from decaying vegetable and animal matters during thousands of years.

"By reference to Professor Emmons' Analysis, published in the *Horticulturist*, vol. II., page 300, it will be seen that the ash of the sap-wood of the Pear tree contains more than 27 per cent. of phosphate of lime, 22 of potash, and a number of other inorganic elements.

"It must be recollected that vegetables require their food as much as animals. If it be afforded in too restricted quantities, they both will be stinted in their growths, and predisposed to disease. Each must also have food of appropriate qualities. An absence of any one of the elements shown to exist in the ash of the Pear will render the tree unhealthy, and probably occasion its death.

"In almost every virgin soil the necessary food for the Pear exists sufficient to insure a rapid and healthy growth of one generation of trees. Cultivation of other crops, as well as the demands of the Pear tree itself, soon takes up most of those elements existing in the superficial soils, especially the phosphate of lime.

"The *second* query is:

"Why have more recent attempts at rearing this tree been less successful than the first?

"Two causes may be assigned—

"1st. Suckers have been too commonly substituted for seeds in propagating this species of fruit, since the earliest generation of trees was produced in those several States. *Seedlings* are generally healthy—*suckers* never for any length of time. The circumstance of their springing from the roots is an evidence of pre-existing disease. That disease is sure to be inherited by every sucker. Their growth may be rapid for a time, but is akin to the malignant developments which sometimes occur in the animal frame, and is sure to end in premature disease and death.

"2d. The second cause has created a more extensive influence. I allude to the exhaustion or deficiency of the necessary inorganic elements in the soil. A knowledge of the limited amounts in which they occur in our ordinary soils, which have been injudiciously cultivated for a number of years, will show to any scientific horticulturist the impossibility of rearing upon them successfully the Pear tree. It is not a chameleon, which can live and grow fabulously by sipping wine. The young biped can not draw its mother's milk by sucking an empty bottle; nor the Pear imbibe a solution of phosphates and potash from a soil made up exclusively of insoluble flint and clay. In localities where these requisite elements are furnished but in too limited amount, this tree will exert its efforts mainly in producing blossom or fruit-buds in excess, which of course will prove abortive the season ensuing from a want of food, and very little new wood will be formed.

"On the other hand, if most of those elements abound, but the main one—the phosphate of lime—be absent, or in a restricted amount, the tree will often make a vigorous effort at forming new wood; the leaves will be luxuriantly developed early in the season, and the shoots will rapidly elongate with a spongy texture, till the period arrives for making a draft on the soil to furnish the necessary amount of phosphates, in order to mature the young and tender growets. This draft usually occurs in the hot and sultry weather of June or July, and is not duly honored. The result is, the delicate tissues immediately die, a rapid chemical change occurs in them, and it is said the tree died of the '*fire blight!*'

"This disease is specifically distinct from the *frozen sap blight*, produced by the impression of frost, from the *canking blight*, often occurring in suckers, and from the *insect blight*, described in Dr. Harris' invaluable work on *Insects Injurious to Vegetation*, but is the *blight of innistrition.*

"The insect blight has occasionally appeared in Ohio, on our Pear, Apple, Medler, Quince and Mountain Ash trees.

"A *third* query still presents itself:

"Why, in certain localities, has the Pear tree continued healthy, and endured to such extreme age?

"To this may be replied, that some localities abound in their necessary food. The green sands and mass of the tertiary formations in New Jersey are rich in those elements. The debris of the dykes, in some parts of Connecticut, contain them, especially potash, in abundance; and there is little doubt that if the clays composing the banks of the Detroit River were analyzed, they would be found to contain more than a usual amount of the phosphates.

"In some instances this tree is sustained for a long period of time by the accidental supply of food. The dead carcass of some large animal may have been deposited near its location—a pile of bones, leached ashes, decaying vegetable matter, the refuse of a slaughter house, or night soil. Perhaps flocks of ducks, geese, hens or turkeys make their roosts on or under its boughs for days and months in succession. From these and similar sources phosphate of lime may be furnished.

"Pear trees springing up in dense and neglected hedges are generally healthy, especially if they are the resort of quadrupeds and poultry.

"In one instance I was familiar with a tree which attained an unusual size. It was standing near a smith's shop, and the owner for a long series of years had almost daily shoed a large number of horses under its shade. The parings of their hoofs, as well as their adventitious droppings, contributed all elements the tree required. Popular opinion attributed the effects to the iron rust and cinders scattered from the shop. It was common to see the population in the vicinity placing loads of cinders about their trees, and encumbering the limbs with horse shoes and sacks of old iron, '*to keep off the blight.*'

"Other collateral influences have favored these bicenturians in certain localities. The Pear tree requires a rather moist and tenaceous soil—not, however, wet and saturated with stagnant water. If placed on a loamy or clayey soil, abounding in the requisite inorganic elements, with pure water percolating beneath at a depth at which it can merely be reached by the extreme roots, this tree will be as hardy, strong-growing and durable as the Oak.

"Climate also exerts an influence over its health and prolificness. Contiguity to large bodies of water seems to temper the severity of the cold of winter, and prevents the occurrence of the *frozen sap blight;* and in summer the moist emanations prevent the scorching impressions of the sun, both on the foliage and fruit. Detroit and its vicinity are naturally furnished with the necessary requisites for producing this fruit on an extensive scale. Hundreds of acres of land might be advantageously employed for this purpose. If the population consult their own interests, and would develop the resources Providence has placed at their command, they will soon become the pear-growers of the nation. They might advantageously even ship, every autumn, thousands of bushels of the winter varieties to Europe.

"All localities in our country are not naturally blessed as is Detroit with the capabilities of rearing this fruit almost spontaneously. It is hoped that these views may not deter any one from attempting its cultivation in a judicious manner. The deficiencies which occur in most soils may be, to some extent, artificially supplied. Animal bones, urine, the sweepings of the poultry-house and yard, and guano, are the principal sources from whence the supplies must be furnished.

"My own trees have been greatly improved, both in their vigor and productiveness, by burying about their roots large quantities of unground bones; time and weather break them down as rapidly as the trees call for supplies. The surface of the ground has been dressed with ashes and refuse lime. *Under this course of treatment I never had a Pear tree attacked with any species of blight.* This may have been accidental.

"In conclusion, I should say that, in common localities, no one should set out one Pear tree more than he can cultivate with care, and can constantly supply, in some form, with the requisite food. A starved fruit tree is of no more profit than a starved animal.

"A better taste should be developed among the fruit dealers and fruit purchasers in the markets of our cities. Some days since I sent into market several bushels of *Beurre Van Marum*—a *third* rate, but yellow and showy fruit—and of the *Beurre Bosc*—*the best of pears,* in my estimation, but of a rusty and unimposing exterior—both were fully ripe. To the good people of Cleveland we must allow the credit of being the best of judges of fashion and business operations, but can not honor their taste about fruits. The *Beurre Van Marum* sold readily from two to three dollars per bushel; while the *Beurre Bosc* would not fetch any price. My agent returned them, and my family soon learned to appreciate their value."

GENESEE VALLEY HORTICULTURAL SOCIETY.

The annual meeting of the Horticultural Society of the Valley of the Genesee was held at the Court House, Rochester, on the 4th of February.

P. Barry, Chairman of the Fruit Committee, made an able and interesting report, which, did space permit, we should gladly copy. Many of the facts, however, in relation to the fruits sent from France by M. Le Roy, were given by us in the February number of the Farmer.

After the reading of the report, it was, on motion, unanimously

Resolved, That the thanks of this Society, with a Diploma, be presented to M. Le Roy, for the fine collection of fruit he so kindly sent us.

Mr. H. N. Langworthy called the attention of members of the Society to the *Michael Henry Pippin* apple, brought by him from Indiana.

The following gentlemen were elected officers for the ensuing year:

President—H. P. Norton, of Brockport.

Vice Presidents—John Williams, of Rochester; Selah Mathews, of Brighton; Robert Brown, of Greece; H. Hooker, of Irondequoit; Z. Burr, of Perinton; Samuel Shadbolt, of Scottsville.

Corresponding Secretary—H. E. Hooker, of Brighton.

Recording Secretary—James Vick, Jr., of Rochester.

Treasurer—James H. Watts, of Rochester.

COMMITTEES.

On Fruits—P. Barry, J. J. Thomas, H. E. Hooker, John Donellan, J. W. Seward, E. S. Hayward, L. A. Ward, J. W. Bissell, H. N. Langworthy, L. B. Langworthy, George Ellwanger, Alonzo Frost.

On Flowers and Flowering Plants—Jos. Frost, Wm. Webster, J. Salter, J. A. Eastman, R. Donellan, J. M. Whitney, C. F. Van Doorn.

On Vegetables—H. N. Langworthy, Jas. Vick, Jr., Horace Hooker, James Buchan.

On Botany—Chester Dewey, Francis Trentman, Moses Long, G. H. Smith, P. Cooney.

On Finance—Jas. Vick, Jr., J. A. Eastman, J. P. Fogg.

Executive Committee—H. P. Norton, P. Barry, Joseph Frost, H. N. Langworthy, Jas. Vick, Jr., Chester Dewey.

THE IMPORTANCE OF DRAINAGE.

Editor Farmer—Dear Sir:—The importance of thorough drainage has never been more forcibly illustrated than by the observation of failures in transplanting some of our forest trees the past year. On one of the leading avenues of our city, the owners of several lots planted forty trees, mostly Hard and Soft Maples, two White Oaks, and four Elms. The descent of the street was about six feet in five hundred. The soil of the upper portion consisted entirely of a reddish clay hard-pan, below which, on a lower level, was a bed of coarse gravel intermixed with nodules of indurated clay. The holes of the upper portion were dug three feet square and two feet deep. Good mellow loam was applied about the roots of the trees when transplanted; guards were planted immediately, and the trees were firmly braced. Now for the result: Of about twenty-five trees planted, but five are now living. The reason of failure was this: The holes were reservoirs of water, and there being no means of drainage the roots were destroyed by the stagnant water. Hence, there being no emission of spongioles, or little fibrous threads, when the drouth of summer came the trees were literally exhausted of their sap by the evaporation from their leaves. The lower portion, comprising about fifteen trees, were planted in the gravelly bed, below the level of the clay hard-pan, and all but three are now living, and leaf-buds are ready to put forth another season.

The inference from the foregoing is self-evident—soils must be dry, or rather effectual means must be provided for removing superfluous moisture, or planting trees is labor lost. A. D. W.—*Rochester.*

Destruction of Insects.—Forsyth (very high authority) says the leaves of Walnut, steeped in boiling water, and that infusion mixed with lime water, soapsuds and urine, forms a most efficacious application for destroying slugs and worms in the ground and insects on trees.

GATHERING AND PRESERVING APPLES FOR CIDER.

The fruit should, if possible, be gathered in fine weather, in order that it may be dry when brought in. The time of gathering varies from the end of August to the end of November, according to the varieties and the locality.

Before gathering, the fruit should have arrived at a proper degree of maturity. This may be known, especially in early varieties, by the smell, by the coloring of the seeds, and also, when the weather is calm, by finding fallen fruit which is neither wormy nor in any way imperfect. The fruit is detached by shaking the branches, either by getting up in the tree or by means of a hook. Poles should be employed as little as possible, and with great care, because they break and destroy the fruit spurs.

It is advantageous to keep each sort of apple separate, in order to be able to mix them so as to produce the best quality of cider.

It is of the greatest consequence to shelter the apples; for if left out of doors, the rain or melted snow carries away part of their juices, and, in consequence, cider of only middling quality can be obtained. We know that in years of abundance there are, in many instances, insufficiency of buildings to shelter the whole of the fruit; but it is neither difficult nor expensive to erect temporary sheds by means of straw mats, from 2 to 2½ inches thick, and made of long straw squeezed between two pieces of wood, which are fastened with osier or wire. Two of these mats leaning against each other like a roof, form a sufficient protection against rain. Apples should be protected from frost, for it deteriorates them as much as rain does. This is so much the easier, as at the time of the hard frosts nearly all of the apples are crushed, except those that are not ripe, and we can therefore put them in the regular buildings. If these buildings are accessible to frost, the best way to preserve the fruit is to cover it with straw and damp cloths, as previously recommended.

The manufacture of cider requires more attention and cleanliness than it generally receives. Not only should all the instruments and vessels used in crushing be free from smell, but the straw also on which the pomace is laid should be fresh, clean, and above all, free from mildew. It is said that the English in Herefordshire, Somersetshire, and other counties, give and preserve an agreeable taste to the cider by mixing large turnips with it. We may with propriety mix bitter and sweet apples; and provided the former are not present in too great proportion the cider is sometimes improved by the mixture. But when we wish to obtain cider that will keep long, we should reject the sour apples, as the liquor they produce is very pale, and soon turns acid.—*London Gardeners' Chronicle.*

Profits of a Vine.—A late paper gives a statement of the cost and profits of an *Isabella* grape vine. The cost is twenty-five cents in labor yearly, in pruning and dressing, and one wheel-barrow load of manure. The profits are five to six bushels of grapes annually, and an ornamental effect in covering an otherwise unsightly out-house.

Ladies' Department.

TO THE LADIES.

THERE is so much good sense in the following remarks (not written for publication, but merely as a suggestion to the editor), that we give them as the best introduction there can be for a "Ladies' Department" in the present volume:

"I have always been an admirer of the FARMER and thought it took about *the* course for an agricultural journal; yet there is one thing which I notice in the present volume that I hardly like, and about which my sister—who is no less assiduous in perusing the FARMER than myself—complains a great deal, and that is, the absence of the '*Ladies' Department.*' Although it may be nothing that concerns me, yet I venture to suggest that you again devote a portion of each number of the FARMER to the interests of the ladies; for verily, is it not as essential that woman be instructed in all that appertains to the home, and the management of a house, &c., as it is that man should know how to improve the products of the farm and the orchard? Surely, when I think of the truth of the adage, that 'a woman can throw more out of the window with a tea-spoon than a man can throw in at the door with a shovel,' and see so many practical illustrations of its truth, I am convinced that as much depends on the skillful management of the women as the men. And how shall woman be skillful, unless she be instructed? and how shall she be instructed, unless there be some portion of our agricultural journals devoted to her interests? Indeed, I believe you could take no course that would be more gratifying to the majority of your intelligent subscribers, than to again insert a 'Ladies' Department' in the FARMER. With every wish for your success, I am Truly yours,

J. S. WOODWARD.

HESS ROAD, N. Y., Feb., 1854."

Now, ladies, the columns of this Rural Journal are open for your mutual instruction; and you are respectfully invited to write for its pages, and you shall have the editor's best efforts to assist in rendering your homes models of rural taste, refinement and happiness.

Although the following note was not intended for the press, we trust that the excellent lady who wrote it will pardon its publication, as we believe it calculated to encourage agricultural reading in families:

"GATES, Monroe Co., N. Y., Jan., 1854.

MR. EDITOR:—I notice in the FARMER for this month, an inquiry for the 'earlier volumes of the GENESEE FARMER.' Being a constant reader of the paper from its commencement, and ever feeling a deep interest in its prosperity, I have filed all the volumes, and have them now, with the exception of a few volumes my husband has presented to friends living at a distance, with a view to promote the wider circulation of the paper.

If I have any of the volumes you wish, you can have them, except the first. That I would retain as a specimen of the agricultural enterprise of the Genesee country in 1831. But if there are any statistics, or other information in that volume, that would be of interest either to yourself or the public, I will gladly copy it, or you can have the loan of the volume if you choose.

That you may be successful in convincing American farmers of the *real dignity* of their vocation, and live to see Agricultural Schools and Colleges crown your efforts in their behalf, is the wish of

Yours, respectfully,

THEDA GARRITT."

VALUABLE RECIPES.

THICKENED MILK.—Put a quart of milk over the fire to boil; put a tea-cupful of wheat flour into a basin; sprinkle over it enough water to make it damp; then work it between the hands until it forms in small smooth rolls; put a tea-spoonful of salt to the milk, and when it is boiling hot stir in the flour; let it boil gently for ten or twelve minutes, and then turn it into a tureen; add sugar and nutmeg if liked, or without either. This is very light and nourishing for invalids or children, except in cases of constipation, which boiled milk increases.

MILK PORRIDGE.—Make a quart of milk boiling hot; make a tea-spoonful of wheat flour a smooth batter with cold milk; add a tea-spoonful of salt, and stir it into the boiling milk; continue to stir it for five minutes, then put it into a basin or tureen; sweeten to taste; flavor with nutmeg or cinnamon. This is very nourishing and agreeable either for children or adults. Sweetened with loaf sugar, and nutmeg grated plentifully over it, it will make a most excellent remedy for looseness or dysentery. Or, boiled milk without the thickening, sweetened with loaf sugar and flavored with grated nutmeg, has the same effect.

BUTTERMILK POP.—Make a quart of buttermilk boiling hot; wet a table-spoonful of corn meal or wheat flour, and make it a smooth batter with water, and stir into the milk, with a tea-spoonful of salt; continue to stir it for five minutes when wheat flour is used, or fifteen when it is made with corn meal. Sweeten to taste with sugar or syrup, and add nutmeg or ground cinnamon, if liked. This is eaten with bread broken into it.

HOW TO MAKE A BLUE WASH FOR WALLS.—Take a pound of lump blue vitriol, pound it in a mortar as fine as possible, and dissolve in two quarts of rain water. Slake three quarts of lime, and when cold pour in the blue water by degrees, and you can make the wash of any tint you may desire. Stir with a metal spoon, and use not a wooden, but an earthen, vessel for mixing the vitriol water and lime in, as wood affects the color injuriously. To cover smoke and other impurities, first apply a coat or two of common white wash.

A YELLOW WASH FOR WALLS is made by taking a quarter of a pound of chrome yellow, a quarter of a pound of gum senegal, and two pounds of whiting. These, dissolved in pure rain water, and treated as above described for blue vitriol, will form an excellent yellow wash.

Editor's Table.

AGENCY IN NEW-YORK.—C. M. SAXTON, Agricultural Book Publisher, No. 152 Fulton street, New York, is agent for the GENESEE FARMER, and subscribers in that city who apply to him can have their papers delivered regularly at their houses.

HINTS FOR THE SEASON.—A friend in Danville, Pa., writes:

"I am desirous of knowing whether the contents of the vaults of privies will pay for the trouble of an application to corn. If you think they will, what does the manure need? and what is the best way of applying it? I have the coming season a poor piece of ground to plant in corn, which needs something to improve it, and guano costs too much. Privy manure I believe I could obtain in any quantity, for the hauling of about six miles.

OBED EVERITT."

With wheat at two dollars a bushel, and corn and potatoes proportionably high, it is not strange that hundreds address letters of inquiry to the FARMER similar to the above, some of which we shall attempt to answer under the heading of "Hints for the Season."

We visited Pittsburgh last spring to see if cheap glass vessels could not be made in which a little oil of vitriol might be placed, to deodorize the fecal matters of privies. They need something that is not weighty to fix all the volatile offensive elements, so that the manure may be easily transported, as guano, gypsum and common salt now are. We found that glass milk-pans were sold at twenty-five cents each; but vessels large enough to serve as small reservoirs of privy manure were likely to cost too much for general use. Not a privy in Baltimore, we are informed, and we know not one in Washington, is allowed to have a vault, or any thing more than a box above ground, the contents of which are often removed by city scavengers. They have generally water-tight tanks on wagons, into which the boxes under the seats of privies are emptied at night (from 12 to 3 in the morning), and the night-soil is conveyed into the country for horticultural and agricultural purposes. This is a dirty and shockingly offensive job, as conducted at the federal metropolis.

To remove this serious obstacle, and bring night-soil into general use, are objects of great importance. Charred peat and common charcoal, pulverized, have been recommended to dry and deodorize privy manure; but even these appear to cost too much for American agriculture. Dry loam is cheaper, and answers a good purpose to mix with fresh night-soil, where it is to be hauled only a short distance. In the present state of public intelligence and notions on this subject, farmers find it difficult to avail themselves of this truly valuable food of plants. All cities and villages should take the business of saving every fecal element within their respective limits into their own hands. They can control the structure of all privies, and the disposition of every manural substance; but the residents of cities are not sufficiently civilized to abstain from poisoning themselves with their own filth. This is the real difficulty that prevents farmers from getting a vast amount of the richest manure at a mere nominal sum; but it does not prevent every family in the country saving night-soil on their own premises. For this purpose dry leached ashes may be used, or dry swamp muck and gypsum.

As March is the season for plowing with many of our readers, we can not too earnestly impress upon them the the importance of *deep* and *fine tilth*. Land thus cultivated draws largely on the atmosphere for its fertilizing moisture and gases. We have many letters from practical farmers on tillage, which will appear hereafter.

"LEBANON, Ky., January, 1854.

DANIEL LEE—DEAR SIR:—I would feel much obliged to you for a little information relative to Agricultural Schools in the East. Please inform me by letter, or through the FARMER, where I may find an Agricultural School—one in a thriving condition. I expected to see the advertisement of some in your most valuable journal.

Yours, truly, E. YOUNG."

The above letter, from a youth in Kentucky, is a fair sample of scores that we have received seeking earnestly for information in reference to "Agricultural Schools." As there is not one such institution in this great Republic, we are painfully compelled either to pass over such letters from our young friends without notice, or write them that in this Nation of Farmers there is not sufficient intelligence to found and support one school for the increase and diffusion of agricultural knowledge. Thirty-two years ago this winter, when Judge BUEL introduced a bill into our State Legislature to establish an Agricultural School in this the largest and wealthiest agricultural State in the Union, appropriating $100,000 to the object, we cherished the hope that the systematic study of rural sciences would soon become popular with the American people. This hope has never been realized. The age has proved to be contented with rural quackery in place of rural science; and our State and County Agricultural Societies, and most journals devoted to agriculture and horticulture, rarely allude to our deplorable lack of close study of the laws of Nature most intimately connected with all farming operations. We have no text books illustrative of comparative anatomy and agricultural physiology, and none on agricultural chemistry, geology and meteorology, adapted to practical use in schools. This arises from our universal neglect to cultivate agricultural knowledge. If a practical individual wishes to pursue the critical investigation of rural economy, he must work *alone*, at every disadvantage, without the smallest hope of compensation, while a thousand envious spirits stand ready to deprive him of any credit that may be due for a life of self-sacrificing devotion to a great public interest. Men who are too lazy to study have the power, and use it, to prevent the establishment of Agricultural Schools in this country. They tolerate cattle shows, because to see fat animals requires no thinking. If these rural exhibitions imposed mental labor on all that attended them, they would have but few spectators.

There exists in the United States but the germ of agricultural science; and whether the vitality of this germ shall be destroyed by its enemies, or developed by its friends, in the next twenty years, is a matter of doubt wherein the chances are about equal. We have ceased to look to the United States Agricultural Society, or to that of New

York, for any thing in behalf of agricultural education; but we have not quite given up the State Societies of Pennsylvania, Maryland, Virginia, Ohio and Georgia. Indiana, Illinois, Michigan and Wisconsin feebly promise to do something for the increase of rural knowledge at some future period.

FARMERS AND FARMING IN CANADA.—It is with considerable reluctance that we admit the superiority of Canada farmers and farming as compared with those of our own much-cherished Western New York; and we still hope that, taken as a body, our cultivators are in advance. But the more we learn of our neighbors across the lake, the higher is our respect for their general intelligence and skill as husbandmen. We ask our readers in the United States to consider the following statements, contained in a postscript to a business letter, which we feel confident are from a reliable source:

"BRISTOL, C. E., February, 1854.

The wheat crop (especially fall wheat) was excellent in this neighborhood last season. Potatoes also were abundant and good; one of my neighbors had 1,250 bushels from something less than two acres, all sound. I am quite surprised to see the small average of wheat per acre in New York. In this township there are farmers who have never less than 30 to 35 bushels per acre, and sometimes 40 bushels. I see those who plow deep have the best crops.

The winter is quite mild, with very little snow; but this morning the thermometer was down to forty degrees below zero, being lower than it has been with us for many years. W. K."

"Twelve hundred and fifty bushels of potatoes from something less than two acres of ground," is a crop worth talking about, and it reminds one of the best ever gathered in the virgin soil of New York. Will our friend favor us with some account of the treatment this crop received, the variety planted, the kind of land, whether recently cleared of its native forest or not, the manure applied, and such other facts as cultivators of the potato would be desirous of learning?

During the last twenty years much of our best wheat lands has been taxed pretty severely; and we have never ceased to warn the owners of the consequences of this suicidal course. Had it not been for the searching schedules prepared by the writer for taking the agricultural census of this State in 1845 (which have since been extensively copied, and recently complimented by Lord ASHBURTON), the public would have known comparatively nothing of the defective farming in New York. Naturally enough, our State and County Societies wish to put the best possible face on all our rural industry. Such flattery, however, is not calculated to reform what is amiss in our system of tillage and husbandry. Hence, our Societies have done next to nothing to maintain the true balance of Organic Nature.

FILTERED RAIN WATER.—Mr. JOHN KEDZIE, of this city, has advertised his filters in this number of the FARMER. We have used one of Mr. K.'s filters for some time, and it answers every desirable purpose. Pure, soft, filtered rain water is much better for drinking, making tea and coffee, and cooking meat and vegetables, than hard limestone water.

"AN UPWARD TENDENCY IN LAND."—A correspondent who has a soul as large as Noble county, in Ohio, writes: "It is surprising that the most outrageously poor farmers in this country are the ones to cry down every thing like improvement, and say it is of no use to buy books or papers, for they can farm without them better than with them. There is a great need of more agricultural knowledge in this county; and if your journal takes with this community, we hope to see *an upward tendency in land* as well as in crops. The whole business of the farmer here seems to be to run his land to death, and then sell out to an Eastern man, for he alone can bring it into fertility again." There is no mistake in reference to the fact that the true way to double the value of farms in any county is to circulate the GENESEE FARMER—the oldest agricultural journal in the State of New York.

Our friend has turned his agricultural reading to a practical account; for he writes that he "has doubled and almost trebled the value of his farm in the last four years." So much for wisely profiting by the vast aggregate experience of thousands of the best farmers in the civilized world. It is with the careful and successful practice of such men that our readers are made acquainted. Such acquaintance costs a farmer but fifty cents a year—the price of twelve or fifteen good cigars.

OSIER WILLOW.—Mr. JAMES BRITTAN, of Newaygo, Mich., very properly calls our attention to the importance of cultivating the Osier Willow for hedges and shelter, as well as for cuttings and market. He says:

"My object in writing to you is to ask why Willow is not used for live fences in this country? In England it is reckoned fully equal to wire; and beside, on the deep bottoms, it gives a valuable crop in its clippings for osiers. As it grows with certainty from cuttings, and with astonishing vigor, it is also considered very useful for sheltering screens; and the difference between the produce of a field of corn (wheat) exposed to the blasting influence of the unbroken sweeps of the wind, and a crop in the lee of a belt of Willow, is inconceivable. Mr. BARRY, in his article in the *Horticulturist*, is beginning to have right notions on that subject. His article is valuable. But to fences again: in every respect Willow has greatly the advantage over every other kind of live fence—it is cheaper (cuttings being used instead of rooted plants)—it is far more beautiful—perfectly hardy—and at all times impervious to cattle, which no other hedge is. Will you give us an article on that subject for the West?"

Our intelligent correspondent is himself *the* man to give the readers of the FARMER an instructive and interesting "article" on the subject. The one he sends in the type of the *Farmers' Companion* is not sufficiently condensed to be compatible with the many other claims on our journal.

EDGE TOOLS.—Mr. D. R. BARTON, of this city, has acquired such a world-wide reputation as the manufacturer of superior Edge Tools, that some of his chisels and augers have been counterfeited in England and sent to American markets. His axes are almost without rivals in the chopping line.

HAY, STALK AND CORN CUTTER.—One of the best machines for cutting forage that we have ever seen operate, is that advertised in this number of the FARMER by J. JONES & A. LYLE.

NEW YORK STATE AGRICULTURAL SOCIETY.—At the annual meeting, held at Albany in the second week in February, the following named gentlemen were elected officers for the ensuing year:

President—WILLIAM KELLY, Rhinebeck, Dutchess Co.

Vice Presidents—J. C. JACKSON, New York; A. B. CONGER, Rockland; GEO. VAIL, Rensselaer; LE ROY MOWRY, Washington; J. C. WOODRUFF, Onondaga; J. BARBER, Cortland; D. H. ABELL, Livingston; S. M. BURROUGHS, Orleans.

Corresponding Secretary—B. B. JOHNSON, Albany.

Recording Secretary—E. CORNING, Jr., Albany.

Treasurer—B. B. KIRTLAND, Rensselaer.

Executive Committee—EDGAR C. DIBBLE, Genesee; ELON COMSTOCK, Oneida; CHAS. MORRELL, Tompkins; T. B. ARDEN, Putnam; AMBROSE STEVENS, New York.

The Society have resolved to hold their next annual fair in the city of New York.

TRANSACTIONS OF THE ESSEX AGRICULTURAL SOCIETY.—We have space left in this number barely to acknowledge the receipt of the Transactions of this old and most useful Society in Massachusetts, from the Hon. JOHN W. PROCTOR, who will please accept our thanks for the same.

OWING to the crowded state of our columns, we are compelled to forego the publication of a large number of "Answers to Inquiries," and several editorial articles, which we had prepared for this number of the FARMER, until our next issue.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

OSAGE ORANGE SEED,

RECEIVED direct from Texas, and warranted good. Price, $20 per bushel—same rate per peck—and a reduction to dealers. Directions for culture, and management of the hedge, furnished to all customers. (*It is* now ascertained, by five years' experiment, that this most excellent hedge plant will endure the winters as far north as Western New York, and wherever it has become known it is rapidly finding favor.) M. B. BATEHAM,

March 1, 1854.—2t. Columbus, Ohio.

PEAS, SPRING WHEAT, &c.

WE have now in store, and offer to our customers,
100 bushels Spring Wheat,
400 " Peas, various kinds,
50 " Vetches,
100 " Barley,
100 " Seed Corn.

March 1, 1854.—tf J. RAPALJE & CO.

CLOVER AND TIMOTHY SEED.

WE have now on hand, and for sale at the lowest cash prices,
200 bushels Clover Seed,
400 " Timothy Seed,
50 " Red Top Seed,

March 1, 1854.—tf J. RAPALJE & CO.

Field and Garden Seeds.

SPRING WHEAT, Barley, Oats, Grass Seed, Clover.
Fresh Ray Grass, Lucern, White Clover, just imported.
Excelsior Potatoes, a new and improved variety.
Belgian Carrot, Sugar Beet, &c.
Garden Seeds of all kinds, including Flower Seeds.
R. L. ALLEN.

March 1, 1854.—3t 189 and 191 Water street, New York.

THE PEOPLE'S PATENT OFFICE.

THIS well-known establishment is still carried on under the personal superintendence of its founder, ALFRED E. BEACH, by whom all the necessary drawings, specifications, and documents, for Patents, Caveats, &c., are prepared with the utmost fidelity and dispatch.

Persons wishing for information or advice relative to Patents or Inventions, may at all times consult the undersigned *without charge*, either personally at his office, or by letter. To those living at a distance he would state, that all the steps necessary to secure a Patent, can be arranged by letter just as well as if the party were present, and the expense of a journey be thus saved. All consultations strictly private and confidential. When parties wish to be informed as to the probability of being enabled to obtain Patents, it will be necessary for them to forward by mail a rough outline sketch and description of the invention. No fee or charge is made for such examinations.

The first step, always, in securing a Patent in this country, is to prepare *a model*, from which the necessary drawings are made. If the undersigned is engaged to prosecute the application and prepare the various papers, the model must first be sent to the PEOPLE'S PATENT OFFICE, 86 Nassau street, New York, after which it will be forwarded to Washington.

Models from a distance may be sent by express or otherwise.

For further information apply to or address, post-paid,
ALFRED E BEACH,
Solicitor of American and Foreign Patents.

People's Patent Office, 86 Nassau street, New York.
March 1, 1854.—1t

Atkins' Self-raking Reaper.

40 OF these machines were used the last harvest in grass or grain, or both, with almost uniformly good success, in nine different States and Canada.

TWENTY-SIX PREMIUMS,

including *two at the Crystal Palace* (silver and bronze medals), were awarded it at the autumn exhibitions. I am building only 800, which are being rapidly ordered. Mr. Joseph Hall, Rochester, N. Y., will also build a few. ☞ Early orders necessary to insure a Reaper.

Price at Chicago $175—$75 cash with order, note for $50, payable when Reaper works successfully, and another for $50, payable first December next, with interest; or $160 cash in advance. *Warranted to be a good Self-raking Reaper.*

☞ Agents, properly recommended, wanted throughout the country. Experienced Agents preferred. It is important this year to have the machines widely scattered.

Descriptive circulars, with cuts, and giving impartially the difficulties as well as successes of the Reaper, mailed to post-paid applications. J. S. WRIGHT,

March 1, 1854.—3t "Prairie Farmer" Warehouse, Chicago.

Garden Implements.

HEDGE, Long Handle, and Sliding Pruning Shears; Budding and Edging Knives; Pruning Hatchets, Saws and Knives; Pruning, Vine and Flower Scissors; Bill and Milton Hooks; Lawn and Garden Rakes; Garden Scufflers, Hoes of great variety, Shovels and Spades; Hand Engines which throw water forty feet or more, Syringes and Water Pots; Grafting Chisels, Tree Scrapers, and Caterpillar Brushes; Transplanting Trowels, Reels; Hand Plow and Cultivator, very useful to work between rows of vegetables; together with a large assortment of other implements too numerous to mention. R. L. ALLEN,

March 1, 1854.—3t 189 and 191 Water street, New York.

Plows! Plows!

PROUTY & MEARS' Improved Center Draught Plows, of all the various sizes.
Michigan Sod and Subsoil Plow.
Rich's Iron Beam, of all the different patterns.
Massachusetts Eagle.
Mapes' Improved Subsoil Plows.
For sale at the State Agricultural Warehouse.
LONGETT & GRIFFING,

March 1, 1854.—2t No. 25 Cliff-st., New York.

New and Improved Plows,

INCLUDING the Deep Tiller, Flat Furrow, Self Sharpener, Center Draught, Side Hill, Subsoil, Double Mold Board, Potato, and Cultivation Plows.

Harrows, Rollers, Seed Sowers, Cultivators, and a large assortment of all other Agricultural Implements. R. L. ALLEN,

March 1, 1854.—3t 189 and 191 Water street, New York.

CORN SHELLERS.

WE have now on hand, at the Genesee Seed Store, a large stock of the various kinds of Corn Shellers of the most approved patterns now in use, all of which we offer for sale at the manufacturers' prices, and warrant them to give satisfaction, or to be returned and the money refunded. J. RAPALJE & CO.

March 1, 1854.—tf

PERUVIAN GUANO.

WE are receiving our supply of Peruvian Guano, per ships "Blanchard," "Senator," and "Gray Feather," from the Chincha Islands, and are now prepared to make contracts for the spring supply. As the demand is large, we would advise all who may be in want of this excellent manure to make early application. Price, $50 per ton of 2000 pounds. Be particular to observe that every bag is branded—

No. 1.
WARRANTED PERUVIAN
GUANO.
IMPORTED INTO THE UNITED STATES BY
F. BARREDA BROTHERS,
FOR THE PERUVIAN GOVERNMENT.

LONGETT & GRIFFING,
State Agricultural Warehouse, 25 Cliff street, New York.
January 1, 1854.—3t.

Kentish's Prepared or Artificial Guano.

TWENTY DOLLARS PER TON.

POTATO ROT.

I HAVE used "Kentish's Prepared Guano" this season on potatoes. My crop was large and all sound. Where I did not use it, the potatoes were all rotten and worthless. My neighbors, also, who have not used this fertilizer, have not raised a saleable potato this year. I consider it a preventive of rot. G. PREAUT.
Westchester Co., N. Y., Sept. 29, 1850.

Extract of a Letter from E. B. Addison.

Alexandria Co., Va., April 23, 1851.

Dr. John H. Bayne, President of Prince George's County Agricultural Society, Maryland, has desired me to inform you that last spring he used African Guano, Poudrette, Peruvian Guano, and your Prepared Guano, on potatoes. The first two were distanced, but the result from the Peruvian and yours was about equal. He pronounces your Prepared Guano to be a very excellent article, and esteems it highly.

Richmond Co., N. Y., July 27, 1849.

I have made use of Kentish's Prepared Guano on potatoes, cabbages, cauliflowers, corn and grapes. I found the result much more satisfactory, and the produce much larger, than where I used imported Guano or any other kind of manure.
EDWARD JENNINGS, Gardener.

☞ It is equally fertilizing on all crops. See the numerous certificates on this subject in the printed circular, to be obtained at KENTISH & CO.'S Depot, No. 159 West street, city of New York.
March 1, 1854.—3t

Wm. Paterson's Improved Superphosphate of Lime,

WHICH has been fully tested in various States last season, and found the best in the market. Put up in bags of 150, 100, and 50 lbs. each, and sold by the manufacturer at DIVISION ST. WHARF, NEWARK, N. J., or by his Agents—
LONGETT & GRIFFING, State Agricultural Warehouse, 25 Cliff street, New York.
EMERY & CO., Albany, N. Y.
P. MALCOLM & CO., Bowley's Wharf, Baltimore, Md.
JOSEPH RADCLIFF & SON, Washington, D. C.
ROBERT BUIST, Philadelphia.
March 1, 1854.—3t.

Superphosphate.

NO expense has been spared in the combination of this most fertilizing manure, which contains all the nutritive properties of all plants. It is superior to most of the articles offered for sale under the same name, and is inferior to none, although sold at a much lower price. Put up in bags at $40 per ton of 2000 lbs., cash.
Office of the New York Superphosphate Manufacturing Company, No. 159 West street, New York.
March 1, 1854.—3t VICTOR R. KNOWLES, Agent.

Fertilizers.

PERUVIAN GUANO, Pulverized Charcoal,
Superphosphate of Lime, Ground Land Plaster,
Bone Dust, Sulphuric Acid,
For sale at the State Agricultural Warehouse, No. 25 Cliff street, New York. LONGETT & GRIFFING.
February 1, 1854.—3t

Fertilizers.

SUPERPHOSPHATE OF LIME, No. 1, of the best manufacture.
Peruvian Guano, best No. 1.
Poudrette, Plaster of Paris, &c. R. L. ALLEN,
March 1, 1854.—3t 189 and 191 Water street, New York.

Cutter Rights for Sale.

WE will test our Hay, Stalk and Straw Cutter, patented November 8th, 1853, for speed, ease and durability, against any other in the United States. J. JONES & A. LYLE.
☞ For further information, address JONES & LYLE, Rochester, N. Y. February 1, 1854.—4f

Farm for Sale.

SAID Farm is pleasantly situated in the town of Leicester, Livingston county, N. Y., on the road leading from the Pine Tavern to Gibsonville, and half a mile from the latter place. It contains 140 acres of land, 115 of which are under good improvement, and well adapted to raising wheat and spring crops; the balance is timbered. It is well watered with durable springs of soft water, and has convenient buildings and a good young orchard of choice fruit. There are 30 acres of wheat on the ground. The above will be sold cheap, and terms made easy.
Also, can be had with the farm, if desired, at a fair price, 1 span of horses, 25 head of cattle, and 30 sheep, with a good set of farming tools.
Any further information can be had by calling on or addressing
CHARLES HOLMES,
February 1, 1854.—3t Gibsonville, Livingston Co., N. Y.

VIRGINIA LAND FOR SALE.

A VALUABLE tract of land for sale in Richmond and Westmoreland counties, Virginia, containing 2700 acres—well timbered with ship and stave timber, well watered, and with vast beds of rich shell marl, enough to lime many such estates. The tract is about three miles from navigation, in a healthy location, and in a good neighborhood. It can be bought for the low sum of $10 per acre. The soil is good, and easily improved, with the means on it to put it in a high state of cultivation; about 1500 acres cleared; buildings small. It will make six or eight farms. I will make a deduction if sold without division. My address is 45 Broadway, Baltimore, Md. Persons wishing to purchase will call on or address me, and I will give any further information. H. BEST.
March 1, 1854.—3t

Two Valuable Stock Horses for Sale.

THE MORGAN TALLIO, beautiful bay color, of pure blood on the part of sire and dam, 15¾ hands high, and weighs about 1300 lbs. Length of shoulder, 34 inches; hip, 30 inches; and from a line drawn from the point of one hip to that of the other, to the setting in of his withers, is only about 13 inches. I purchased him in Warren, Vt., one year ago. He is a sure foal getter, and his stock is as fine as can be shown. He drew the first premium at our County Agricultural Fair last fall.
Also, young BLACK HAWK MORGAN, obtained at the same place. He is six years old, a splendid moving horse, and very fast. He is one of the finest to be found in Western New York. Call and see. I will sell one or both on time, or exchange for land.
Address WM. CARDELL,
March 1, 1854.—1t Baldwinsville, Onondaga Co., N. Y.

Short-horn Bulls and Suffolk Pigs for Sale.

I HAVE three one-year-old Bulls, got by my imported Bull VANE TEMPEST. Color—Red and roan. Also, a few choice pairs of Suffolk Pigs, bred from my imported stock.
Auburn, N. Y., Feb. 1, 1854.—2t. J. M. SHERWOOD.

POULTRY.

To the Poultry Dealers and Fanciers at the South and West.

THE subscriber is now prepared to fill orders to any extent for any known variety of choice imported and domestic Fowls, Geese, Ducks, Turkeys, Swans, and Pea and Guinea Fowls, and will sell stock by the pair, trio, or lot, at very reasonable prices. Those who buy to sell again supplied on favorable terms. I will warrant all Birds sold by me to be equal in all respects to any in the country. Stock can be safely sent to any part of the United States. No charge made for cages. J. W. PLATT,
February 1, 1854.—2t Rhinebeck, N. Y.

Brahma Pootra Fowls and Eggs for Sale.

THE subscriber offers for sale the most beautiful Brahma Pootra fowls that can be found in the country. Also, eggs from the same fowls next spring and summer. Price of fowls, $10 to $50 per pair; eggs, $6 per dozen. Also, Buff-colored Shanghaes and Eggs. Fowls cooped, and eggs carefully packed in spring boxes and sent to all parts of the country, by addressing, post-paid,
E. GILES,
February 1, 1854.—2t* Sanquoit, Oneida Co., N. Y.

Brahma Pootra Fowls for Sale.

THE subscriber has fifty pairs of the above fowls for sale, of pure blood. He also offers for sale the coming spring eggs for hatching, from fowls which he selected to breed from. Also, Black Spanish eggs, from imported fowls. THOS. WRIGHT.
Utica, February 1, 1854.—3t.

Brahma Po[illegible]c.

THE celebrated Brahma Fowls, purely bred, also Canton and Marsh Shanghae or Imperial Fowls, for sale at reasonable prices by WM. N. ANDREWS,
March 1, 1854.—2t Dover, N. H.

New and Choice Fruits.

HOVEY & CO., No 7 Merchants' Row, Boston,

HAVE the pleasure of offering to amateur cultivators and the trade generally, the following superior new fruits, of which they possess the entire stock, and are now first offered for sale:

BOSTON PEAR.

A new native summer variety, ripening from the middle to the last of August, just before the Bartlett, of large size, with a beautiful waxen yellow skin, and a red cheek, superior to any variety of its season.

This fine pear was first exhibited by Messrs. Hovey & Co. before the Mass. Hort. Soc. in 1849, and repeatedly since that time, obtaining the highest commendation of the Fruit Committee, who have spoken of it as follows:

"From Hovey & Co. a new native pear, of good size, fair and handsome, of a brisk vinous flavor, fully equal to an Urbaniste in its best condition, and one of the finest early pears."—*Report of August*, 1850.

"A new pear, presented by Messrs. H. & Co. It is a fruit of medium size, round oblong shape, yellow color, with a fine blush in the sun, and russet at the stem; skin smooth; flesh melting, juicy, of a very rich pleasant flavor, resembling in general appearance the Golden Beurre of Bilboa."—*Report for* 1851.

"The Messrs. H. & Co. have also presented this season a native variety of great beauty and of fine quality, which promises to rank among the best of our early pears."—*Hon. M. P. Wilder, in the Horticulturist*, 1851.

Many other commendatory notices have also appeared of this fine pear.

In 1850, the Mass. Hort. Soc. awarded Messrs. H. & Co. the *premium* to this variety, *as the best summer pear.*

In 1853, the Mass. Hort. Soc. awarded Messrs. H. & Co. a *gratuity* of $20 for the introduction of this variety.

Fine trees of large size, 5 feet high will be ready for sale on the 1st of April next, at $5 each—or $40 per dozen. A few trees of very large size, full of flower-buds, $10 each.

HOVEY CHERRY.

This new and superb cherry was raised from seed by Messrs. H. & Co., and is one of the largest and most beautiful cherries known. It measures more than an inch in diameter, and is produced in clusters of twenty or thirty cherries each. The color is amber, beautifully shaded with deep coral red. Flesh firm, sweet and rich, ripening the last of July and beginning of August. It is beautifully figured in the *Fruits of America*. It first fruited in 1848, and has obtained the following commendatory notices:

"The Fruit Committee had the opportunity of tasting a seedling from Messrs. Hovey, that was of the largest size, firm flesh, amber color, mottled, with a red cheek, sweet, high flavored and fine."—*Report by Hon. J. S. Cabot, August* 12, 1850.

"One of the best, if not the very best new cherries tasted the past season, 1851, was a seedling of Messrs. Hovey. It was of the largest size, sweet, high flavored, and very fine. The present indications are that it will take a high rank, and become an established favorite."—*Mr. Cabot's Report*, 1851.

"On the 17th July, Messrs. H. & Co. produced their seedling cherry, mentioned in the preceding report. This, notwithstanding the unfavorable season, fully maintained the high character then awarded to it."—*Report of Fruit Committee*, 1852.

"Fully sustains its former reputation."—*Report for* 1853.

The Committee also awarded Messrs. Hovey & Co. the APPLETON GOLD MEDAL for this variety, it having proved, for five consecutive years, a new and superior cherry.

Young and handsome trees of this superior cherry will be ready for sale the 1st of April next, at $3 each—and $25 per dozen.

THE CONCORD GRAPE.

MR. BULL'S NEW AND SUPERIOR SEEDLING,

The stock of which has been placed in their hands for sale.

This remarkably fine American variety is the greatest acquisition which has ever yet been made to our hardy grapes, and supplies the desideratum so long wanted, of a superior table grape, sufficiently hardy to withstand the coldest climate, and early enough to ripen its fruit in any part of the Northern or New England States. It is FOUR WEEKS earlier than the Isabella, and two weeks earlier than the Diana. It was fully ripe the last season (1853) on the 3d of September, when Messrs. Hovey & Co. exhibited specimens from Mr. Bull's original vine before the Mass. Hort. Soc.

It is a most vigorous growing vine, perfectly hardy, with bunches of large size, handsomely shouldered, often weighing a pound, and with large roundish oval berries, frequently measuring an inch in diameter; color very dark, covered with a thick blue bloom; flesh free from all pulp; flavor very rich and luscious, with a fine sprightly aroma. The foliage is large, broad, and thick, and the berries have never been known to *mildew, rot*, or *drop off*, under any circumstances, during the five years since it has borne fruit. All good judges who have tasted it pronounce it far superior to the Isabella in its ripest condition.

Opinion of the Fruit Committee of the Mass. Hort. Soc.

1852, Sept. "Seedling grape from E. W. Bull; large, handsome and excellent."

1853, Sept. "Fully equal to specimens last year, and proves to be a remarkably early, handsome and very superior grape."

Fine strong one-year-old vines will be ready for sale April 1, at $5 each, and to the trade at $40 per dozen. All orders will be attended to in the rotation in which they are received.

March 1, 1854.—1t.

Wm. R. Prince & Co, Flushing, N. Y.,

ARE selling off the large stock of Trees from their 50 acre Nursery at reduced prices, the Railroad being laid out through it.

Extra large and beautiful Fruit and Ornamental Trees, and also smaller sizes.

5,000 Pears on Pear, 8 years grafted, and from 10 to 12 feet in height, and 20,000 of 6 to 10 feet.

10,000 Pears on Quince, 6 to 8 years grafted, in full bearing state, and 12,000 of 2 to 5 years.

N. B.—The above Pears have not been allowed to ripen fruit, the object being to increase their vigor.

15,000 Cherries on Mazzard Stock, 5 to 6 years grafted, down to 1 and 2 years.

12,000 Pyramid Cherries on Mahaleb Stock, 5 and 6 years down to 1 and 2 years.

3,000 Prune Plums for drying, 4 years old, grown from seed.

20,000 large Apples, 6 years grafted. 30,000 of less size.

25,000 large Orange and Portugal Quinces, 6 years old.

Figs and Pomegranates.

3,000 French Chestnut and Madeira Nuts, 8 to 12 feet.

12,000 Angers Quince, 6 years old, valuable to make layers for stocks to bud pears on.

Grapes.—25 valuable native varieties, and all choice foreign varieties.

Raspberries, Gooseberries, Currants and Blackberries.

Prize Strawberries.—A select and unequaled collection, comprising 30 splendid new varieties no where else obtainable.

Ornamental Trees of extra large size, comprising every variety suitable for lawns, arboretums and cemeteries.

Ornamental Shrubs of large size, and of all the finest and rare kinds.

Evergreen Trees and Shrubs, of all the most beautiful and rare species, and the following of *extra large size*: Norway Spruce, European Silver Fir, Balsam Fir, Scotch Fir, Swedish and Irish Junipers, Cedrus Deodara, Cedar of Lebanon, Austrian Pine, White Pine, Pineaster, Californian Pines, Pyramidal Cypress, English and Irish Yew, Pyramidal Cedar, Chinese, American and Siberian Arbor Vitæ, Taxodium sempervirens, Cryptomeria Japonica, Green and Variegated Hollies, Mahonia, several species, Photinia serrulata, Aucuba Japonica, Arbutus Unedo, Rhododendrons of all kinds, Scotch Broom, and Green and Variegated Tree Box.

20,000 large Silver and Norway Maple, and European Sycamore.

2,000 double Altheas, 8 varieties, 4 to 6½ feet high, and bushy.

800 Swedish and Irish Junipers, 6 to 10 feet, and 2,000 of less sizes.

200 Funebral Cypress; 100 Virgilia lutea, 4 to 6 feet. 300 Salisburia adiantifolia, 3 to 6 feet. 300 Tilia macrophylla and argentea; 100 White Fringe tree, 6 to 9 feet.

30,000 cheap Arbor Vitæ for hedges, Osage Orange, Privet, and Box edging.

20,000 European Linden and Red-twigged do., 8 to 16 feet, for sale low.

6,000 large Horse Chestnuts, and 5,000 large Mountain Ash.

Extra large Magnolias—macrophylla, tripetala, acuminata, conspicua, gracilis, obovata, glauca, maxima, &c.

American Cypress and Drooping Larch, of all sizes.

Roses.—A select and splendid collection, covering 3 acres, including 100 varieties of Climbing Roses, 6 to 8 feet high, and all the new Perpetual and Moss Roses. Chinese Tree and Herbaceous Pæonies—150 splendid varieties, the latter very low for 25 to 100, assorted. Dahlias—the finest European prize varieties. Weigela amabilis and splendens, Deutzia sanguinea, gracilis, and 6 others, Spiræa callosa and 25 others, Pyrus umbicillata rosea and atrosanguinea. Bulbous flowers of every variety, including all the splendid Japan Lilies, 30 new Gladiolus, 4 of Tiger flower, 20 of Amaryllis, Tuberoses, Oxalis Deppei and others. Chrysanthemums—100 choicest new large flowering Pompone and Liliputian varieties. Rhubarb of the largest kinds, and large German Asparagus. Select assortments of the most beautiful varieties of Phloxes, Iris, Daises, Verbenas, Polcanthus, Cowslips, Primroses, Hibiscus, Hollyhocks, Hemerocallis, Carnations, Picotees, Double Rose Campion, Double Rockets, Campanulas, Violets, and other Herbaceous Plants.

In this collection there are a great many rare and beautiful Trees, Shrubs and Plants, not to be found elsewhere, including the new Chinese and Japan Shrubs just introduced.

N. B.—We will supply Nurseries at one or two years' credit to any amount, if secured by mortgage or safe notes.

☞ Persons desiring large quantities will please send their lists to be priced at reduced rates. March 1, 1854.—2t.

For Sale,

BLACK MAZZARD CHERRY STOCKS, one year old.
JAMES C. CAMPBELL, Rochester, N. Y.
March 1, 1854.—6t.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO., in inviting the attention of their patrons and the public in general to their very extensive collection of FRUIT AND ORNAMENTAL TREES, SHRUBS, &c., would respectfully inform them that the stock they offer for sale the coming spring is unusually fine, both as regards quality of trees, variety of kinds, &c. &c.

The soil and climate of the Hudson Highlands have rendered proverbial the success of the trees sent from here to all parts of the Union; and the accuracy and precision so indispensable in the propagation of fruit trees for which this establishment has long been celebrated, render errors in nomenclature of rare occurrence.

They have propagated in large quantities all the leading standard varieties which are proved best adapted for general cultivation, especially those recommended by the American Pomological Society, as well as all novelties both of native and foreign origin.

To particularize within the limits of an advertisement would be impossible; they refer to their General Catalogue, a copy of which will be sent to all post-paid applicants, on enclosing a post office stamp. The following comprises a portion of their stock, and are all of fine growth, viz:

PEARS in over 400 varieties, both standards on their own stocks for orchard culture, and on the Quince for dwarfs, pyramids and quenoucille, for garden culture.

APPLES in over 300 varieties, both standards and dwarfs.

CHERRIES, both standards and dwarfs.

PLUM, APRICOT, PEACH, NECTARINE and QUINCE trees, in every variety.

GRAPE VINES, both native and foreign, for vineries. Also,

GOOSEBERRIES (50 best Lancashire varieties), CURRANTS, RASPBERRY and STRAWBERRY plants, of all leading and known kinds; together with

SEA KALE, ASPARAGUS and RHUBARB roots.

ORNAMENTAL TREES, SHRUBS, and VINES, both deciduous and evergreen, suitable for street and lawn planting, embracing all the new and rare conifers, weeping trees, and shrubs of recent introduction.

ROSES in every variety, including Hybrid Perpetual, Hybrid Bourbon, Hybrid China, Hybrid Damask, Prairie, Boursault, Ayrshire, and other hardy climbing and garden varieties, as well as the more tender Tea, China, Bengal, Bourbon and Noisette varieties.

HERBACEOUS PLANTS.—A large collection of Pæonies, Phloxes, Campanula, Penstemon, Œnothera, &c. &c.

DAHLIAS and BEDDING PLANTS, for the parterre and flower garden, in large quantities and variety.

HEDGE PLANTS.—500,000 strong two-year-old Osage Orange, in three different sizes, at $10, $8 and $6 per 1000; Buckthorn plants, two years old, at $8 per 1000.

Dealers and planters of trees on a large scale will be dealt with on the most liberal terms.

Newburgh, March 1, 1854.—2t

SAMUEL MOULSON,
AT THE OLD ROCHESTER NURSERY,

(Office No. 36 Front Street, Rochester, N. Y.,)

IS prepared to furnish inventories, to post-paid applicants, of the present extensive stock of Nursery items, consisting in part of

10,000 very fine Northern Spy Apple Trees, from 7 to 8 feet high, which will be offered by the thousand at low prices,
90,000 Dwarf and Standard Pears,
20,000 Apple Trees, in variety,
20,000 Peach " "
15,000 Plum, Cherry and Apricot,
20,000 Osage Orange, of different ages,
Over 100,000 Hardy Evergreens,

And a fine selection of Weeping Deciduous Trees and Ornamental Shrubs, together with such novelties as may be classed strictly hardy, and a large collection of Dahlias, Tulips, and other bulbous roots.

The amateur wishing prime fruits of well established repute, or the agriculturist needing fine cropping, thoroughly tested varieties, may rely upon the most careful execution of their orders.

The Ornamental items are entirely grown in the Nursery; consequently none of the heavy losses are sustained that usually occur to recently imported subjects.

The Evergreens are very robust, and admirably furnished to the surface of the ground—none presenting the naked stems usual to imported plants.

Dealers are invited to give me a call before making their purchases.

March 1, 1854.—1t

PERINTON NURSERY.

FOR SALE, a choice lot of FRUIT TREES, consisting of Apple, Pear, Peach, Cherry and Quince Trees, together with Grape Vines, Raspberries, &c.

Also, Ornamental Trees, Shrubs and Plants.

Hedge Plants and Basket Willow.

Persons wishing to purchase any of the above articles are invited to call and examine the stock or send in their orders, as it is the intention of the proprietor to furnish trees at the most reasonable rates, and to execute all business entrusted to him with despatch, in the most careful and skillful manner. ZERAH BURR,

March 1, 1854.—1t* Perinton, N. Y.

Rochester and Charlotte Plank Road Nurseries.

Office 68 State Street, Rochester, N. Y.

THE subscribers offer the following for sale at low prices:

FRUIT TREES—All the most select and approved varieties, propagated from bearing trees.

ORNAMENTAL TREES—Such as are best adapted to pleasure grounds and lawns.

SHRUBS—Every new and popular variety, and such as have proved to be valuable additions.

HERBACEOUS PLANTS—A very choice collection, such as bloom in succession.

PHLOXES—All the improved and showy varieties. This is one of the most desirable classes of hardy plants.

☞ ROSES ON THEIR OWN ROOTS, *not Budded or Grafted*—A very select collection, selected for their distinctness of character, as well as for their robust and thrifty habit of growth. We pay especial attention to Roses; our object is to have distinct varieties, and not to be burdened with a long list of names, for merely the name. A Rose on its own roots is valuable; the majority of budded Roses are worthless, and a great disappointment to purchasers.

ASPARAGUS, RHUBARB, SEA-KALE—Also, HEDGE STUFF, such as Buckthorn, Osage Orange, Privet, Red Cedar, *Thuja Occidentalis*, Hemlock Spruce, &c., all admirably adapted to Hedging, particularly the White Cedar, or *Thuja Occidentalis*, as it will bear shearing into different shapes.

Our trees are well furnished with fibrous roots, being grown on *new sandy loam soil*. Seldom any failure in transplanting.

DAHLIAS—Our selection of varieties has proved to be the best adapted to this climate. We have taken the first premium wherever we have exhibited for the last five years, both in Canada and the States. [See the premium lists of the various exhibitions.] Many of the Prize Flowers of England, France and Germany, when grown in this climate, fall far short of the character of a good Dahlia.

☞ All orders promptly attended to, if directed to

March 1, 1854.—1t C. J. RYAN & CO., Rochester, N. Y.

River Bank Nursery,

Opposite the Race Course, North St. Paul-st., Rochester, N. Y.

WE request the attention of purchasers to our stock of FRUIT TREES. It comprises all the varieties of merit, and will be sold at reasonable prices. The most careful and prompt attention will be given to all orders we may be favored with.

GEO. H. CHERRY & CO.

☞ Western Nurserymen can be accommodated with a large amount of young stock, of the choicest kinds.

March 1, 1854.—2t

20,000 Choice Fruit and Ornamental Trees,

ROSES, SHRUBS, PLANTS, EVERGREENS, &c., from one to five years old, are offered for sale, at wholesale or retail, at bargains to suit the purchaser. Persons wishing to purchase in large or small quantities, will find it to their interest to call and examine our stock before purchasing elsewhere, if they want good trees, good fruit, and great bargains. Commercial Nursery, sale ground 109 West Genesee street. E. & O. S. FORD,

March 1, 1854.—1t. Syracuse, N. Y.

Fruit Scions for 1854.

THE subscriber will furnish both Apple and Pear Scions for this season's grafting, of all the standard kinds, including those heretofore advertised by him in the Farmer. Price, one dollar per hundred for Apple, and three shillings per dozen for Pear Scions. In large quantities they would be sold less. *They can be sent by mail or express* to any portion of our country. Orders, enclosing the money, will be promptly filled. JAMES H. WATTS.

Rochester, February 1, 1854.—tf

Osage Orange.

GOOD, strong plants, for sale low. If desired, they will be shipped at our expense to Cincinnati, Louisville, or Buffalo. Directions given for making a perfect Hedge.

Also, EVERGREENS—Balsam Fir, White Pine, Yellow Pine, &c. &c.—at wholesale. TEAS, GOLDSMITH & CO.,

February 1, 1854.—2t Indianapolis.

For Sale.

THE subscriber has 2,500 YOUNG HORSE CHESTNUT TREES for sale, *three to ten feet high, straight thrifty trees, good tops.* For sale on the ground, singly or by the dozen, at 4s. each for the largest size, and by the 100 or more, for 2s. each. The smaller trees I will sell to Nurserymen at a very low rate, according to the number taken. BURR BUTLER,

March 1, 1854.—2t* Palmyra, Wayne Co., N. Y.

For Sale,

CUTTINGS (grown on upland for the purpose) of the following varieties of Willow: TRIANDRA PURPUREA and FORBYANA. Also, a few thousands of a new one (SALIX BEVERIDGII), of remarkable excellence. CHARLES DOWNING,

March 1, 1854.—1t* Newburgh, Orange Co., N. Y.

Fruit and Ornamental Trees, &c., &c.

THE subscribers have the pleasure of announcing an immense stock of Trees, &c., for the Spring trade, embracing—

STANDARD TREES, for Orchards.
DWARF AND PYRAMIDAL TREES, for Gardens.
ORNAMENTAL TREES, for Streets, Parks, and Pleasure Grounds.
RARE AND BEAUTIFUL LAWN TREES.
NEW AND RARE WEEPING TREES.
EVERGREEN TREES, embracing the rarest species of Pines, Firs, Spruces, Yews, Cedars, Junipers, &c.
HARDY FLOWERING SHRUBS.
ROSES, of all classes, and embracing the newest and best sorts.
DAHLIAS, the finest English prize sorts.
CHRYSANTHEMUMS, including the finest of the new Pompone varieties.
PHLOXES AND PÆONIES, superb collections.
BEDDING PLANTS, a complete assortment.
HEDGE PLANTS, 50,000 Osage Orange.
BOX EDGING.
RHUBARB, ASPARAGUS, &c., &c.

All orders, whether for large or small quantities, executed with the greatest care, and in strict compliance with the wishes of the purchaser.

Packing done in the most secure and skillful manner, so that parcels can be transmitted thousands of miles in safety. Nurserymen and dealers in Trees will be supplied on the most liberal terms.

The following Catalogues are sent *gratis* and *pre-paid* to all who apply and enclose one postage stamp for each:

No. 1, Descriptive Catalogue of Fruits.
No. 2, do do Ornamental Trees, &c.
No. 3, do do Dahlias, Green House Plants, &c.
No. 4, Wholesale Catalogue.

ELLWANGER & BARRY,
Feb. 1, 1854.—2t. Mount Hope Nurseries, Rochester, N. Y.

Genesee Valley Nurseries.

A. FROST & CO. ROCHESTER, N. Y.,

OFFER to the public the coming spring one of the largest and finest stocks of Fruit and Ornamental Trees, Shrubs, Roses, &c., in the country. It in part consists of standard Apple, Pear, Cherry, Plum, Peach, Apricot, Nectarine and Quince Trees. Also, Dwarf and Pyramid Pears and Apples.

SMALL FRUITS.—Native and Foreign Grapes, old and new sorts of Currants, finest Lancashire Gooseberries, Strawberries, Raspberries, &c. &c.

The ORNAMENTAL DEPARTMENT comprises a great variety of Deciduous and Evergreen Trees, Shrubs, Vines and Creepers, which includes upward of of 300 varieties of the Rose.

BEDDING PLANTS.—150 varieties of Dahlias, a large collection of Verbenas, Petunias, Helictropes, &c. &c.

Priced Catalogues of the above will be mailed to all applicants enclosing a postage stamp for each Catalogue wanted, viz:

No. 1.—Descriptive Catalogue of Fruits, Ornamental Trees, Shrubs, &c.

No. 2.—Descriptive Catalogue of Green House and Bedding Plants of every description, including every thing new which may be introduced up to its season, will be published in March each year.

No. 3.—Wholesale Catalogue, published in September.

February 1, 1854.—tf

Rain Water Filters.

I CONTINUE to furnish Filters as usual, much improved in the inside fixtures, for which I have obtained "Letters Patent." They are now complete, and can be sent to any section of country in safety. No family living in lime sections of country ought to dispense with their use, as whatever is taken into the circulation has much to do with health, as a preventive of disease. They have been fully tested by hundreds of our first class citizens within the last ten years. I make four sizes, at $5, $6, $8 and $10 each. They will last from two to four years without repacking, which can easily be done by any one with proper directions. Orders for Filters, or Rights of Territory, will be attended to at once.

March 1, 1854.—tf JOHN KEDZIE, Rochester, N. Y.

1,000 BOOK AGENTS WANTED,

TO SELL PICTORIAL AND USEFUL WORKS FOR THE YEAR 1854.

$1,000 A YEAR!

WANTED, in every county in the United States, active and enterprising men, to engage in the sale of some of the best Books published in the country. To men of good address, possessing a small capital of from $25 to $100, such inducements will be offered as to enable them to make from $3 to $5 a day profit.

☞ The books published by us are all useful in their character, extremely popular, and command large sales wherever they are offered.

For further particulars, address (postage paid)

ROBERT SEARS, Publisher,
March 1, 1854.—1t 181 William street, New York.

OUR ILLUSTRATED JOURNALS.

FOWLERS AND WELLS publish the following Periodicals. They have an aggregate circulation of about One Hundred Thousand Copies.

These Popular and Professional Serials afford an excellent opportunity for bringing before the Public with Pictorial Illustrations all subjects of interest, Physiological, Educational, Agricultural, Mechanical, and Commercial.

THE WATER-CURE JOURNAL AND HERALD OF REFORMS. Devoted to Hydropathy, its Philosophy and Practice, to Physiology and Anatomy, with Illustrative Engravings, to Dietetics, Exercise, Clothing, Occupations, Amusements, and those Laws which govern Life and Health. Published monthly, in convenient form for binding, at One Dollar a Year in advance.

"Every man, woman and child who loves health; who desires happiness, its direct result; who wants to 'live while he does live,' 'live till he dies,' and really live, instead of being a mere walking corpse, should become at once a reader of this Journal, and practice its precepts."—*Fountain Journal.*

THE AMERICAN PHRENOLOGICAL JOURNAL. A Repository of Science, Literature, and General Intelligence; Devoted to Phrenology, Physiology, Education, Magnetism, Psychology, Mechanism, Agriculture, Horticulture, Architecture, the Arts and Sciences, and to all those Progressive Measures which are calculated to Reform, Elevate, and Improve Mankind. Illustrated with numerous portraits and other engravings. A beautiful Quarto, suitable for binding. Published monthly, at One Dollar a Year in advance.

"A Journal containing such a mass of interesting matter, devoted to the highest happiness and interests of man, written in the clear and lively style of its practiced editors, and afforded at the 'ridiculously low price' of one dollar a year, must succeed in running up its present large circulation (50,000 copies!) to a much higher figure."—*New York Tribune.*

THE ILLUSTRATED HYDROPATHIC QUARTERLY REVIEW. A New Professional Magazine, devoted to Medical Reform, embracing articles by the best writers, on Anatomy, Physiology, Pathology, Surgery, Therapeutics, Midwifery, etc., Reports of Remarkable Cases in General Practice, Criticisms on the Theory and Practice of the various opposing Systems of Medical Science, Reviews of New Publications of all Schools of Medicine, Reports of the Progress of Health Reform in all its Aspects, etc., etc., with appropriate Illustrations. Each number contains from 190 to 200 octavo pages, at Two Dollars a year.

"In addition to the widely circulated monthly journals issued by these enterprising publishers, we have the New Hydropathic Quarterly Review, edited by the most distinguished members of that school. It is filled with articles of permanent value, which ought to be read by every American."—*New York Tribune.*

Communications, New Books for notice or review, Advertisements, and Subscriptions, should be addressed to the Publishers, FOWLERS AND WELLS, Clinton Hall, No. 131 Nassau street, New York.

February 1, 1854.—2t

One Dollar a Year! Fifty Cents a Volume!

SPLENDID ENGRAVINGS!!

THE PEOPLE'S JOURNAL,

AN ILLUSTRATED RECORD OF AGRICULTURE, MECHANICS, SCIENCE, AND USEFUL KNOWLEDGE.

EVERY number contains 32 *large pages of letter-press, beautifully printed on fine paper, and PROFUSELY ILLUSTRATED with ENGRAVINGS*, forming at the end of each year TWO SPLENDID VOLUMES, comprising *four hundred pages*, and illustrated with about FIVE HUNDRED ELEGANT ENGRAVINGS, the entire cost being only ONE DOLLAR.

The PEOPLE'S JOURNAL was commenced in November, 1853, and has already attained a large circulation. The November number contained 40 engravings, the December number 72 engravings, the January number 47 engravings, and the February issue has 61 engravings, making in all 220 illustrations, although only four numbers have been published. These relate to Science, Art, Mechanics, Agriculture, and Useful Knowledge, in accordance with the general plan of the work. No publication of the kind has ever been produced with such magnificence or at so cheap a price. It is admired and taken by every one who sees it.

TERMS.—To Subscribers—*One Dollar a Year, or Fifty Cents for Six Months.* Subscriptions may be sent by mail in coin, post office stamps, or bills, at the risk of the publisher. The name of the Post Office, County, and State, where the paper is desired to be sent, should be *plainly written.* Address, postage paid,

ALFRED E. BEACH,
No. 86 Nassau Street, New York City,
Editor of the People's Journal.

A LIBERAL DISCOUNT TO POST MASTERS AND AGENTS.

Single copies 12½ cents. Specimens sent on receipt of four postage stamps.

March 1, 1854.—4t

AYER'S CHERRY PECTORAL,

For the rapid cure of

COUGHS, COLDS, HOARSENESS, BRONCHITIS, WHOOPING-COUGH, CROUP, ASTHMA, AND CONSUMPTION.

TO CURE A COLD, WITH HEADACHE AND SORENESS OF THE BODY, take the CHERRY PECTORAL on going to bed, and wrap up warm, to sweat during the night.

FOR A COLD AND COUGH, take it morning, noon and evening, according to directions on the bottle, and the difficulty will soon be removed. None will long suffer from this trouble, when they find it can be so readily cured. Persons afflicted with a seated cough, which breaks them of their rest at night, will find by taking the CHERRY PECTORAL on going to bed, they may be sure of sound, unbroken sleep, and consequent refreshing rest. Great relief from suffering, and an ultimate cure, is afforded to thousands who are thus afflicted, by this invaluable remedy.

From its agreeable effect in these cases, many find themselves unwilling to forego its use when the necessity for it has ceased.

TO SINGERS AND PUBLIC SPEAKERS this remedy is invaluable, as by its action on the throat and lungs, when taken in small quantities, it removes all hoarseness in a few hours, and wonderfully increases the power and flexibility of the voice.

ASTHMA is generally much relieved, and often wholly cured, by CHERRY PECTORAL. But there are some cases so obstinate as to yield entirely to no medicine. CHERRY PECTORAL will cure them, if they can be cured.

BRONCHITIS, or irritation of the throat and upper portion of the lungs, may be cured by taking CHERRY PECTORAL in small and frequent doses. The uncomfortable oppression is soon relieved.

FOR CROUP. Give an emetic of antimony, to be followed by large and frequent doses of the CHERRY PECTORAL, until it subdues the disease. If taken in season, it will not fail to cure.

WHOOPING-COUGH may be broken up and soon cured by the use of CHERRY PECTORAL.

THE INFLUENZA is speedily removed by this remedy. Numerous instances have been noticed where whole families were protected from any serious consequences, while their neighbors without the CHERRY PECTORAL were suffering from the disease.

Repeated instances are reported here of patients who have been cured from

LIVER COMPLAINTS by this remedy, so many that there can be no question of its healing power on these diseases. It should be perseveringly taken until the pain in the side and other unpleasant symptoms cease.

FOR CONSUMPTION in its earliest stages, it should be taken under the advice of a good physician, if possible, and in every case with a careful regard to the printed *directions* on the bottle. If judiciously used, and the patient is carefully nursed meantime, it will seldom fail to subdue the disease.

For settled CONSUMPTION in its worst form, the CHERRY PECTORAL should be given in doses adapted to what the patient requires and can bear. It always affords some relief, and not unfrequently cures those who are considered past all cure. There are many thousands scattered all over the country, who feel and say that they owe their lives and present health to the CHERRY PECTORAL.

This remedy is offered to the community with the confidence we feel in an article which seldom fails to realize the happiest effects that can be desired. So wide is the field of its usefulness, and so numerous the cases of its cures, that almost every section of the country abounds in persons, publicly known, who have been restored from alarming and even desperate diseases of the lungs by its use. When once tried, its superiority over every other medicine of its kind is too apparent to escape observation; and where its virtues are known, the public no longer hesitate what antidote to employ for the distressing and dangerous affections of the pulmonary organs, which are incident to our climate. And not only in formidable attacks upon the lungs, but for the milder varieties of Colds, Coughs, Hoarseness, &c., and for children it is the pleasantest and safest medicine that can be obtained. No family should be without it, and those who have used it never will.

Witness the following:

[Translation.]

Vermilionville, La., April, 1853.

MONS. LE DR. J. C. AYER:—I have of late made frequent use of your Cherry Pectoral in my practice, and am happy to inform you that in no case yet has it failed me. I have made some signal cures of Laryngitis and Bronchitis with it, and have completely cured one case of Asthma, which had withstood every other medicine I could employ. Accept, sir, the assurances of my distinguished consideration.

JULES CLAUD GOUGUET, M. D.,
Late Surgeon of the Royal Marine, France.

Curacoa, March 5, 1852.

DR. J. C. AYER:—I use your Cherry Pectoral daily in my practice, and am satisfied it is a remedy which must meet in every country the highest approbation.

C. W. JACKHEER, M. D.,
Resident Court Physician.

PREPARED AND SOLD BY JAMES C. AYER, PRACTICAL AND ANALYTICAL CHEMIST, LOWELL, MASS.

☞ Sold by LANE & PANE, Rochester, and by all Druggists every where. March 1, 1854.—1y

Contents of this Number.

Dairy Husbandry, ... 73
Transactions of the N. Y. State Agricultural Society for 1853, ... 75
Corn-culture, ... 76
Guano on Cotton, ... 77
Guano on Potatoes and Corn, ... 78
Guano on Corn, ... 78
Under-draining, ... 78
Peruvian Guano, ... 79
Experiments in Potato-culture, ... 7.
Prolific Corn, ... 80
Smoke-consuming Stove, ... 80
How to Choose a good Milch Cow, ... 82
High Priced Cows, ... 83
Product of Good Cows, ... 84
Profitableness of Cattle Feeding in England, ... 84
Scours in Horses, ... 86
A Most Valuable Grass, ... 85
To Make Crackers, ... 86
Importation of European Cattle, ... 87
New Leicester Sheep, ... 87

HORTICULTURAL DEPARTMENT.

The Osage Orange Hedge Plant, ... 90
Vegetable Physiology and Pear-culture, ... 91
Genesee Valley Horticultural Society, ... 93
The Importance of Drainage, ... 94
Destruction of Insects, ... 94
Gathering and Preserving Apples for Cider, ... 94
Profits of a Vine, ... 94

LADIES' DEPARTMENT.

To the Ladies, ... 95
Thickened Milk, ... 95
Milk Porridge, ... 95
Buttermilk Pop, ... 96
How to Make a Blue and Yellow Wash for Walls, ... 96

EDITOR'S TABLE.

Hints for the Season, ... 96
Agricultural Societies, ... 96
Farmers and Farming in Canada, ... 97
"An Upward Tendency in Land," 97
Osier Willow, ... 97
New York State Agricultural Society, ... 98
Transactions of the Essex Agricultural Society, ... 98

ILLUSTRATIONS.

Patent Smoke-consuming Stove, ... 81
New Leicester Sheep, ... 88, 89
Cut showing the Manner of Trimming an Osage Orange Hedge, 91

Home Protection.

TEMPEST INSURANCE COMPANY.

CAPITAL, $250,000.

Organized December 24, 1852—Chartered March 1, 1853.

HOMES ONLY INSURED BY THIS COMPANY.

No one Risk taken for more than $3000.

HOME OFFICE, MERIDIAN, N. Y.

Many distinguished persons have insured their homes to the amount of $3000 each in this Company, among whom are Ex-President VAN BUREN, Kinderhook; Ex-Governor SEWARD, Auburn; DANIEL S. DICKINSON, Ex U. S. Senator, Binghampton.

To whom it may concern: AUBURN, May 16th, 1853.

We are personally acquainted with many of the Officers and Directors of the Tempest Insurance Company, located at Meridian, Cayuga county, N. Y. In our opinion they are among the most wealthy and substantial class of farmers in this county.

J. N. STARIN,
ELMORE P. ROSS,
THOMAS Y. HOWE, *Jr.*

The above gentlemen will be recognized as the Cashier of Cayuga County Bank, Auburn; Postmaster, Auburn; and Ex-Member of Congress, Auburn, Cayuga county, N. Y.

February 1, 1854—1y

A Chance to Make Money!

PROFITABLE AND HONORABLE EMPLOYMENT!!!

THE subscriber is desirous of having an Agent in in each county and town in the Union. A capital of from five to ten dollars only will be required, and any thing like an efficient, energetic man can make from three to five dollars per day; indeed, some of the Agents now employed are realising twice that sum. Every information will be given by addressing (postage paid)

WM. A. KINSLER,
March 1, 1854.—1t* Box 601, Philadelphia Post Office.

STEREOTYPED BY J. W. BROWN, ROCHESTER.

THE

GENESEE FARMER.

PREMIUMS FOR 1854.

THE Proprietor of the GENESEE FARMER, encouraged by the liberal support long extended to this journal by its friends and patrons, announces that the FIFTEENTH VOLUME of the second series, commencing January, 1854, will contain a third more reading matter than any of its predecessors, and be otherwise much improved, without any increase of price.

To enlarge the usefulness by extending the circulation of the GENESEE FARMER, the undersigned will pay the following PREMIUMS on subscriptions to Volume XV., second series:

FIFTY DOLLARS,

IN CASH, to the person who shall procure the LARGEST NUMBER OF SUBSCRIBERS in any County or District in the United States or Canadas, at the club prices.

FORTY DOLLARS,

IN CASH, to the one who shall procure the SECOND LARGEST LIST, as above.

THIRTY DOLLARS,

IN CASH, to the one procuring the THIRD LARGEST LIST.

TWENTY DOLLARS,

IN CASH, to the one procuring the FOURTH LARGEST LIST.

TEN DOLLARS,

IN CASH, to the one procuring the FIFTH LARGEST LIST.

In order to reward every one of the friends of the GENESEE FARMER for his exertions in its behalf, we will give to those not entitled to either of the above premiums, the following BOOKS, free of postage, or EXTRA PAPERS, as may be preferred:

1. To every person who sends **SIXTEEN** subscribers, at the club terms of thirty-seven cents each, ONE EXTRA COPY OF THE FARMER.

2. To every person sending for **TWENTY-FOUR** copies, as above, any AGRICULTURAL BOOK valued at FIFTY CENTS, or TWO EXTRA COPIES OF THE FARMER.

3. To every person ordering **THIRTY-TWO** copies, any AGRICULTURAL BOOK worth SEVENTY-FIVE CENTS, or THREE EXTRA COPIES OF THE FARMER.

4. To every person ordering **FORTY** copies, any AGRICULTURAL BOOK valued at ONE DOLLAR, or FOUR EXTRA COPIES OF THE FARMER.

5. To every person ordering **FORTY-EIGHT** copies, any AGRICULTURAL BOOK worth ONE DOLLAR AND TWENTY-FIVE CENTS, or FIVE EXTRA COPIES OF THE FARMER.

For larger numbers, books or papers given in the same proportion. To save cost to our friends, we pre-pay postage on all books sent as premiums. Persons entitled will please state whether they wish books or extra papers, and make their selection when they send orders, if they desire books; or if they have not obtained as many subscribers as they intend to, we will delay sending until the club is full, if so requested. We do not require that all the papers of a club should be sent to one post-office. If necessary for the convenience of subscribers, we are willing to send to as many different offices as there are members of the club. We write the names on each paper, when a number are sent to the same office, if desired; but when convenient, Postmasters would confer a favor by having the whole number ordered at their own office, sent to their own address.

☞ As all subscriptions commence anew with the year, places where the FARMER was never before taken will stand an equal chance in the competition for premiums.

☞ BACK VOLUMES of the FARMER will be furnished, if desired, and counted the same as new subscribers. We shall keep a correct account of the subscribers sent by each person, and in the MAY NUMBER WE SHALL ANNOUNCE THE PREMIUMS.

☞ Specimen numbers, show-bills, &c., sent to all post-paying applicants. All letters must be post-paid or free. Subscription money, if properly enclosed, may be mailed at our risk.

THE VOLUME FOR 1854 IS

PRINTED ON GOOD PAPER, WITH NEW TYPE, BOUGHT EXPRESSLY FOR IT.

A gentleman, graduate of the University of Vienna, who is familiar with the languages of those nations in which the science of agriculture is most cultivated, will aid us in translating for the FARMER whatever can instruct or interest its readers. This gentleman is by profession a Civil Engineer and Architect—branches of knowledge intimately connected with the progress of rural arts and sciences. The general character of our paper is thus pithily stated by the Hon. MARSHALL P. WILDER, President of the Massachusetts Board of Agriculture, and of the United States Horticultural and Agricultural Societies, in a letter now on our table, which closes as follows:

"I have always had the GENESEE FARMER. *It is, without favor or affection, the best paper in the country.*

MARSHALL P. WILDER."

As our club price to each subscriber is only thirty-seven cents a year, no matter how many agricultural journals one may take, to patronize the FARMER can not impoverish him.

DANIEL LEE, Publisher and Proprietor.